

Energy Theory of Matter and Cosmology

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Abstract

A new theory 'Energy Theory of Matter and Cosmology', as an alternative theory, is proposed which could explain all the problems with different theories of physics; the main cause of which are the theories of relativity and resultantly the Big Bang Theory fails. Since it is established that the basic building substance of matter is energy and it has to be under the influence of a scalar force field this energy is converted into the matter. The scalar force field originated from the universal creator and with the initiation of the scalar force field energy of which the matter is made up of was converted into matter. During the process of conversion of energy into the particles, the particles attained high energies and collisions of the particles started. These particles in the process of fusion emit radiation which finally takes the form of cosmic background radiation and under the influence of said scalar force field, weak nuclear force, strong nuclear force and electromagnetic forces the atoms started forming. Then these atoms under the influence of gravitational force started clustering and thereby planets, stars and other astronomical bodies came into existence.

Keywords: Energy, theory, Big Bang, origin, universe, cosmic, particle, matter

Introduction

There were different philosophical-cosmological theories from the times of Aristotle and before, but none withstood the philosophical and scientific verification amidst of fast changing scientific developments. With the advancement of scientific method in the twentieth century, two main theories of cosmology appeared namely Big Bang Theory and Stead State Theory. Steady State Theory had some inherent and verifiable problems resultantly the theory was rejected. Thus, we are left with only one cosmological theory namely Big Bang Theory which is being pursued at present. There are even more serious problems with Big Bang Theory, which would be discussed in detail, but in absence of any alternative theory, the Big Bang Theory has been adopted. The Energy Theory of Matter & Cosmology is the alternative theory which could explain all the problems with the Big Bang Theory.

It is an admitted fact in the field of physics that different theories of physics are contradictory, inconsistent and incompatible at some fundamental level especially the General Theory of Relativity. The fundamental problem due to which different theories of physics are contradictory, inconsistent and incompatible has been identified and shall be discussed herein. The Energy Theory of Matter & Cosmology will overcome all the inadequacies which are prevailing presently.

Problems with the present theories of cosmology

In the twentieth century, two theories of cosmology appeared namely Big Bang Theory & Hoyle's Steady State Theory. Though the Steady State Theory was rejected on the basis of experimental proof of existence of uniform cosmic background radiation but there are other problems with the Steady State Theory which need to be discussed. The most serious problems with the Steady

State Theory are that the theory does not take the origin and mechanism of formation of matter into account and secondly the theory presumes space and so the universe to be expanding. The basis of rejection of the Steady State Theory is discussed as follows:

Lemaitre and George Gamow proposed the existence of extra-ordinarily uniform radiation in the space as the proof of the Big Bang Theory. Arno Penzias & Robert Wilson confirmed the existence of the radiation in the space called 'Cosmic Background Radiation' in 1965 and finally in the year 1989, George Smoot and his associates in NASA sent a satellite into the space called 'Cosmic Background Emission Explorer' (COBE) which detected and confirmed the uniform cosmic background radiation in the space which marked the end of the Steady State Theory.

The existence of the 'uniform' cosmic background radiation in the space and the phenomenon of galaxies moving away from each other as inferred by Hubble as the result of red-shift of the visible spectrum of light of galaxies due to Doppler effect; gave rise to the possibility of the Big Bang Theory. From these two experimentally proved facts with the explanation that 'cosmic background radiation' is the outcome of the initial big bang about 13.7 billion years before; which being sufficient time for law of entropy of thermodynamic to prevail for cosmic background radiation to be uniform and secondly since galaxies are receding from each other; so the galaxies having formed soon after the big bang are moving away from each other for conservation of momentum, as matter has originated from a single point at the time of big bang. Accordingly the Big Bang Theory has been almost adopted as the same is also predicted by the General Theory of Relativity. Since there is no alternative theory to the Big Bang Theory, it was virtually adopted despite the

fact that it has far more serious problems than any other theory in the history of cosmology. Since in this article the very fundamental problem with Big Bang Theory has been identified, which will be discussed, as such a brief summary of other major problems with Big Bang Theory should serve the purpose. The other major problems are discussed as under:-

1. *Origin of Dark Energy.* -

Theoretically it is established beyond any reasonable doubt that besides matter and electromagnetic radiation there has to be energy called Dark Energy which constitutes about 90% of the total material in the universe. It is also almost established theoretically that Dark Energy is of different types and the Dark Energy interacts with the matter and electromagnetic radiation in some strange manner. It is also theoretically proposed in the Big Bang Theory; to cover up certain major problems in the Big Bang Theory; that some Dark Matter also exists but there is absolutely no experimental evidence of existence of Dark Energy & Dark Matter. In Big Bang Theory; without knowing the complete nature of Dark Energy some phenomena of 'negative pressure' has been assigned to Dark Energy.

The origin and source of the Dark Energy with the concept of universe having started from a single point and expanding space and universe is the most serious problem of Big Bang Theory. This problem is so serious that it should be sufficient reason to reject the Big Bang Theory.

2. *Problem of initial Big Bang.*-

There is absolutely no justified reason for the initial big bang to take place, neither there is any experimental evidence that the initial big bang has taken place. There is no theoretical or experimental evidence that singularity can exist not to speak of the singularity can explode. Even in respect of the black hole there is absolutely no evidence, experimental or theoretical, that the black hole can explode. In the black hole all the energy which could be utilized by the matter particles for causing the explosion is already consumed and there is absolutely no reason for even black hole to explode. This should be also sufficient reason for rejecting the Big Bang Theory.

3. *Jugglery of concepts and story of unknown phenomena.*-

- After the initial big bang and the cosmic inflation the formation of quark-gluon plasma and other elementary particle due to some *unknown phenomenon* is an assumption which has no theoretical and experimental evidence.
- The particles being supposed to be moving at the relativistic speed and subsequent formation of particle-antiparticle pairs of all kinds due to some *unknown phenomenon* is an assumption which has no theoretical and experimental evidence. In fact the concept of antiparticle and antimatter is an imaginary concept. There is no experimental evidence of existence of antiparticles. The concept of positron is

also imaginary concept because the charge of a particle is simply the 'condition' of the energy which constitutes the particle.

- The further destruction of these particles and antiparticles in the collisions is also an imaginary concept because there is no experimental evidence of existence of antiparticles.
- Unknown reaction* of baryogenesis violating the conservation of baryon number, leading the quarks and leptons to over-number the anti-quarks and anti-leptons and subsequent predominance of matter over antimatter is the most unscientific thesis one can ever think of. The strange disappearance of antiparticles due to some *unknown phenomenon* is something which looks like the mockery of scientific method.
- The model of cosmology which describes the evolution of universe after the inflation stage called Lambda CDM Model which is based on incompatible General Theory of Relativity and Quantum Mechanics cannot be valid model because there is a genuine and fundamental problem with General Theory of Relativity which will be discussed in this article in detail.
- The complete understanding of the initial big bang is an accepted unsolved mystery in Big Bang Theory of cosmology.

This all is followed by usual story of protons, neutrons and electrons forming the atoms, wherein strong & weak nuclear forces and electromagnetic forces are called into play and subsequent clustering of atoms to form planets, stars and galaxies due to gravitational force. This part is realistic and has sufficient theoretical and experimental evidence.

Experimental evidence against Big Bang Theory: -

The two basic and fundamental experimental evidences on the basis of which Steady State Theory was rejected and Big Bang Theory was adopted are 1) Existence of uniform cosmic background radiation and 2) Hubble's observation of red-shift of visible spectrum of electromagnetic radiation due to Doppler effect.

If we have the experimental evidence that the cosmic background radiation is not due to the initial big bang and secondly that the temperature changes in the cosmic background radiation which take place due to change in the intensity of the cosmic background radiation (which in the Big Bang Theory is assumed to be due to the red-shift of the photons due to the expanding space) are not due to red-shift of the photons due to expanding space and so the universe; that will prove that the basis of Big Bang Theory is not correct.

Facts:- The cosmic background radiation if due to big bang, the radiation is supposed to be extra-ordinarily uniform because 13.7 billion years is sufficient time for law of entropy of thermodynamics to prevail. Initially the cosmic background radiation was detected to be corresponding to black body temperature of 2.728K and presumed to be uniform. But subsequently the cosmic background radiation was experimentally detected to be

fluctuating and anisotropic by detecting the changes in temperature data which stands released by NASA and has been studied in detail.

In Big Bang Theory these fluctuations in temperature are presumed to be due to the red-shift of the photons in the cosmic background radiation and are expressed by the formula.

$$T = 2.728 (1+z)$$

Where z is the representative of the red-shift of the photons due to expanding space and so the universe.

As an evidence against the Big Bang Theory the cosmic background radiation is not due to initial big bang and fluctuations and anisotropy in cosmic back ground radiation is due to continuous emission of radiation from the far off galaxies I would refer to the news item published in physicsworld.com, a website of Institute of Physics, by Hamish Jonston on May 7, 2010 under the heading 'Herschel sheds light on star and galaxy formation'. The news item is briefly described as follows:

'Herschel is a far-infrared and sub-millimeter telescope (also called Herschel infrared space observatory) launched by European Space Agency (ESA) in May 2009. The news item throws light on the first scientific results of the Herschel on the work conducted with the data and images collected by Herschel and interpreted by scientists associated with Herschel in ESA. The results are briefly stated as follows (Picture 1):



"Some images reveal billowing clouds of gas and dust that astronomers believe will go on to form stars and planets. Others provide new views of the early universe,

showing distant galaxies that are invisible to the likes of the Hubble Space Telescope".

"It started taking data in July last year and new images include those of the star forming cloud RCW 120, which Herschel has discovered containing an embryonic star that could evolve into one of the largest in the Milky Way". The most striking information of the news item is:

"Meanwhile, at the farthest reaches of the universe, Herschel has so far discovered more than 1000 distant galaxies. These galaxies emit large amount of infrared radiation, and the Herschel images show that these objects are responsible for more than half of the cosmic infrared background radiation originating from that part of the universe.

Unlike the Milky Way, which creates about three new stars per year, some of these ancient galaxies are forming thousands of stars per year".

The results of the Herschel on the basis of experimental data and images of about a year makes it clear that more than half of the cosmic infrared background radiation (it be noted that Herschel detects only the infrared spectrum of the electromagnetic radiation) is emitted by mere more than 1000 distant galaxies (compared to billions of galaxies). **It could be very safely concluded that the cosmic background radiation (on the whole) is not due to the big bang and the anisotropy & fluctuations in the temperature of cosmic background radiation is due to the continuous emissions of radiation by the distant galaxies.**

The assumption of temperature fluctuations of cosmic background radiation are due to the expanding space and so the universe also fails; so the concept of expanding space and the universe would naturally fail.

The additional experimental evidence is that thousands of stars are formed year after year in the ancient galaxies. With the concept of big bang and expanding space, the probability of formation of stars in the galaxies will reduce with time from the time of big bang and there would be very minimal probability that stars could be formed. But the experimental evidence that thousands of stars are formed year after year in the ancient galaxies also proves that the Big Bang Theory and the concept of expanding space and so the universe is not correct. This should be sufficient proof for rejecting the Big Bang theory

Fundamental problem identified: -

The fact that I have not put forward the 'Energy Theory of Matter & Cosmology' on the basis of adopted mathematical formulations is because there is genuine and fundamental problem with the mathematical formulations on which the theory of cosmology has been based. The fundamental problem has been identified and is discussed as follows:-

The basic problem is the invariability of velocity of light irrespective of the relative motion of the source of the light and the observer as confirmed by Michelson-Morley experiment. This experimental evidence nobody has the

right to challenge because it is a confirmed fact and has been tested thousands of times over. The basic problem actually started for representing this invariability of velocity of light irrespective of relative motion of source of the light and the observer in the mathematical formulations. Hendrik Lorentz and George FitzGerald postulated that when something is moving it shrinks in the direction of motion, in order to represent the problem of invariability of velocity of light irrespective of relative motion of the source of light and the observer in the mathematical formulations. This is the fundamental problem and cause of inconsistencies & contradictions and problems in different theories of physics. This gave rise to the space-time concept, Minkowski space-time geometry and subsequently to the General Theory of Relativity. The introduction of time dilation and space contraction is the root cause of all the problems of contradictions of theories of physics and cosmology. This is explained as follows.

Space being absolute and transferring the problem of invariability of velocity of light irrespective of the relative motion of the source of the light and the observer to the space converted the space into an emergent concept which led to the introduction of the space-time concept which formed the basis of General Theory of Relativity and finally ended up in Big Bang Theory. This all started with Lorentz-FitzGerald contraction effect because of the problem of light was transferred to the space.

The problem of Lorentz-FitzGerald contraction under relativistic speed over long periods of time converted absolute space into almost no-space at the time of big bang. All those mathematical formulations are wrong and are hereby challenged and that should explain the reason why I have not based the 'Energy Theory of Matter & Cosmology' on the basis of incorrect mathematical formulations. The physicists have to find out the alternative ways and means of representing the problem of invariability of velocity of light irrespective of relative motion of the source of light and the observer in mathematical formulations.

The contradictions, inconsistencies and confusion in different theories of physics & cosmology are an accepted and known fact to all the physicists. The Energy Theory of Matter & Cosmology should be given the credit of identifying the fundamental problem due to which there are contradictions, inconsistencies and confusion in different theories of physics.

Introduction to 'Energy Theory of Matter and Cosmology'

Before the Theory of Matter and Cosmology is introduced, it is appropriate to compare the three theories of cosmology (Table 1).

Table 1. Comparison of major theories

Theory	Matter	Time	Space
Big Bang	Absolute	Absolute	Emergent
Steady State	Emergent	Absolute	Emergent
Energy	Emergent	Emergent	Absolute

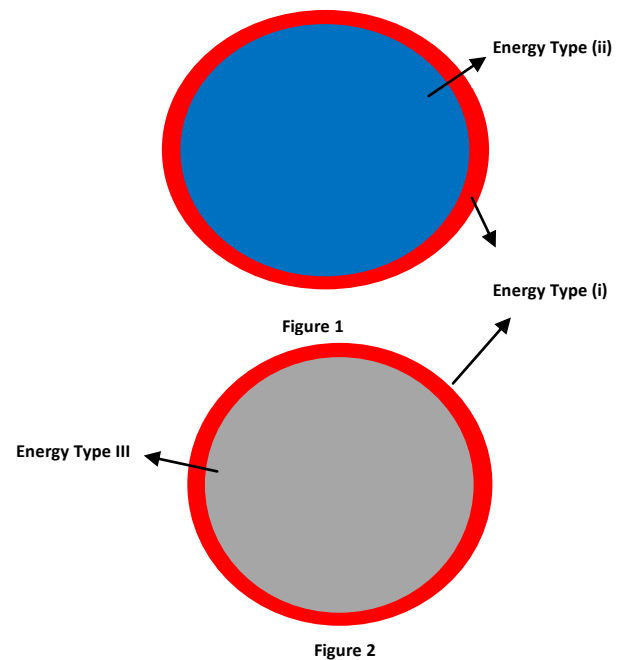
Since space is absolute, any theory which takes space to be an emergent sooner or later, shall have to be rejected. That has been the plight of Steady State Theory and that shall have to be plight of the Big Bang Theory.

Energy Theory of Matter and Cosmology. -

Let me not discuss the energy type (ii) and energy type (v) as described in detail in the book 'Natural World Order & The Islamic Thought', because these two energies have nothing to do with the 'Energy Theory of Matter & Cosmology'. Cosmologically, in the beginning, three energies filled the finite space of universe namely:

- i). Special energy with special properties of which perfect universal creator is made up of.
- ii). Energy which could be transformed in the mass particles and of which the matter is made up of. This is the simplest form of energy with very limited and defined properties.
- iii). Energy other than the above mentioned two types of energies, like the Dark Energy etc.

These energies filled the finite space of universe as depicted in the Fig. 1 and 2.



The depth of color indicates the degree of intensity of the energies. Both the 'energies'; that is energy type (ii) and energy type (iii) have sub-types. The energy type (ii) and energy type (iii) are in the proportion of 1:9.

Since it is established that the basic building substance of matter is energy and it has to under the influence of a force field, this energy is converted into the matter. The force field has to originate from somewhere. The force field originated from the peripheral energy type (i) and with the initiation of the force field energy type (ii) was converted into matter particles namely protons, electrons,. During the process of conversion of energy

into the particles, the particles attained high energies and collisions of the particles started. These particles in the process of fusion emit radiation which finally takes the form of cosmic background radiation; as under the influence of said force field, weak nuclear force, strong nuclear force and electromagnetic forces the atoms started forming. Then these atoms under the influence of gravitational force started clustering and thereby planets, stars and other astronomical bodies came into existence. In order to conserve the momentum these clustered atoms started moving in all possible directions and further clustering of planets & stars also followed. Further clustering resulted in formation of star systems like solar system. This was followed by further clustering of star systems into galaxies. However the movement of all planets, stars and astronomical bodies continued. It would be worthwhile to mention here that some particles could not cluster and continued to be in the space and subsequently as & when suitable gravitational force conditions prevail these atoms also cluster to form the star systems and as such the process of star formation continues with time and star formations take place even at present. Subsequently the clustering of stars took place for the formation of galaxies. In order that galaxies are stable, stars within the galaxies started revolving and in order that all astronomical systems are stable the whole universal matter in the form of galaxies are revolving around the center of the universe. In the process of motion of all the universal matter, very gradual expansion is taking place resultantly galaxies are receding which accounts for Hubble observation of red-shift of the visible spectrum of radiation being emitted by the galaxies. The fact that the universal matter is expanding but not the space, is the basic and fundamental problem of Big Bang Theory. Under 'Energy Theory of Matter & Cosmology' finally following picture of the universe emerges (Fig.3 and 4).

The speed of revolution of the different star systems within the galaxies varies depending upon the mass content of the star system. This theory is consistent with the observations of Herschel as the cosmic background radiation is continuously being produced during the fusion of particles resulting in the fluctuations and anisotropy of the cosmic background radiation which stands mapped and released by NASA. All the hitherto unexplained cosmological phenomena could be explained under this theory. The failure of converting mass particles into energy by making them to collide at very high speeds is due to the fact that unless and until the force field is withdrawn not a single stable particle could be converted into energy. This is another proof of the correctness of Energy Theory of Matter & Cosmology. The charge of the particles is a state of 'condition' of the energy which constitutes the charged particles which fact could help a great deal in understanding the matter. With this theory all the confusion, inconsistencies and contradictions in the theories of physics and cosmology could be explained.

Finally the universe will be restored to the original form as and when the force field is withdrawn by the peripheral energy type (i).

This theory demolishes the Greek philosophy of eternity of matter and time. As discussed in the chapter "Philosophy of Creation; Energy, Space & Time" in the book titled "Natural World Order & The Islamic Thought" physicists need to vigorously pursue the theoretical and experimental aspects of this theory in order to understand the matter and the universe.

