Cosmic Inflation & Universe

The big bang, as an event leading to creation of the universe, is an assumption questioned by many. Intuitively it is against cosmological principle – that calls for universal laws and observation be same to all independent observers subject to specific reason that can create a cause and effect logic for difference if any. Big bang hypothesizes a singularity that occurred in the past to create the universe as an event. An event is specific to a location and time. Time is not the issue with cosmological principle, the location is. The observation using latest contemporary techniques has established the universe is uniform over large distances (greater than few cubic Megaparsecs in size). At such large distances properties (important to cosmological principle) are attributed to G-space and not R-space in PicoPhysics. G-space is uniform, homogenous & isotropic.

Pseudo Equilibrium Universe

PicoPhysics view of universe in equilibrium is Kambhar (R-Space) is continuously produced in free space (G-space). It is consumed by Knergy contained in space (a fraction of the same composes the mass-particles). The amount of Kambhar consumed depends on Knergy density (Knergy/Unit G-space) multiplied by Knergy amount. The amount of Knergy is constant as it is a Konserved identity. When Kambhar consumed matches generation, it is said to be in Pseudo equilibrium.

Pseudo equilibrium conforms to formation of

- Mass Particles
- Nebula
- Stars and planets
- Neutron Stars
- Supernova

Stablized mass particles

As a result, consumption of space occupied by Knergy increases the density of Knergy. Due to affinity of R-space to posses Knergy, Kambhar external to Knergy moves in. When this inward motion of Kambhar and consumption by Knergy equals, equilibrium is achieved in the form of mass particles.

The rate of motion of Kambhar into mass is constrained to be lower than unit. If can attain unit speed only after acquiring Knergy from the particle mass. Therefore mass particle surface separating it from external space, determines the maximum Kambhar consumption permissible in mass particle, or measure of its mass.

The affinity of space to occupy Knergy, make it collect around mass particles containing Knergy. This results in increase in Knergy density around mass particles. It helps increase maximum inflow value of Kambhar and enables increase in mass particle density. (Quantization affect are ignored in this discussion. This causes extra islands of stability known in nuclear physics as magic numbers).

A magnitude of mass due to Knergy is directly proportional to Knergy density. It is also proportional to the surface separating the core space containing Knergy from external space. Point symmetrical shape maximizes the mass to Knergy ratio.

If rate of generation of Kambhar in free space is constant. The amount of space bonded to mass particle increases with Knergy density and number of particles/unit Knergy. With in same quantization band (between magic number nucleus) the particle stability decreases as mass number increases.

If the Knergy density increases above the threshold for inward drift speed to exceed unit speed, the region surrounding the nucleus comes to posses' part of the Knergy. Now the dynamics for the mass particle & Kambhar equilibrium are first offset by electrodynamics. Electrodynamics expands the surface separating the particle from free space. The Kambhar density at this surface is now same as free space density. Outside of this surface, Kambhar motion is directed to the mass-particle in decreasing drift speed. Between these surfaces towards the nucleus the space is termed as a field that posses Knergy at very low density compared with mass-particle.

All in all, the amount of free space bonded with the particle is not just the occupied space, but free G-space that produces Kambhar (R-space) to sustain the Knergy configuration in the mass particle.

Knergy is in perpetual motion relative to mass-particle (internal observer). Thus it is continuously changing occupied space. Now let us consider the following cases of relative amount of Knergy & Space;

1. Low space; If available space to be bonded is lower than required, Knergy can not consume what is available. It will expand, lowering its density and requirement of amount of bonded space.

2. Excess Space: If Knergy can not naturally fragment increasing number of particles, and tied up locally in mass-particle configuration the expansion of the universe will be observed. But the expansion rate will depend on geometric distribution of mass-particles in space. For example, it is possible that no expansion is observed for size of galaxies, but inter glaxial space expands.

3. Equilibrium; Equilibrium is reached in both cases. When Excess space is starting point, electromagnetic emissions from mass-particle will fragment the Knergy to increase the bonded space. In case of Low space, nucleus of mass-particle will expand to lower space requirements.

In all three cases, Universe is expected to self balance to an equilibrium condition.

Size of observable universe

Let us consider a universe in flux with excess space. In such a universe, the size of universe is observed by the red-shift in frequency of electromagnetic radiations. The red shift occurring as a result of generation of Kambhar (R-space) in free G-space.

These Knergy particles possess unit Knergy. They expand in drift direction as they move through space. They interact with much heavier matter and attain thermal equilibrium. In this state they can be associated with the source. This results in space being filled with cosmic background radiations (CBR).

Therefore even though we may device ways and means to observe larger and larger distances, CBR poses a limit to Size of observable universe.

Some dynamic space constants

Rate of space regeneration: 1: 2.2987e -18 per second. (As per Hubble's constant)

Amount of space bonded by hydrogen atom = 0.334 Mts^3

Consumption of space per AMU per second = 7.67762 e -19 Mt^3

(The above values will be worked out again, after discussing nuclear structure and properties).