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Multi Molecule Theory" by Dynamic Universe Model explains Brownian Motion

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Nanobiotechnology is a wonderful multidisciplinary budding science. Here we propose to explain the Physics portion which is forming the basis of the Nanobiotechnology. Brownian motion is the dictating MASTER of the behaviour in scales of Nanometers. How this Brownian motion happens? Why collisions happen between the Molecules? How the momentum is generated in the starting place? What are the are the trajectories of individual particles or molecules? The Physics and the calculations behind the force and individual velocities of molecules with relevant theoretical analysis is proposed in this paper. It will take some time to develop the theoretical background first. Dynamic Universe Model solved many Unsolved Cosmological problems, on the same principles we try to develop this "Multi Molecule Theory". Experimental verifications, Reynolds number etc, require further research.

Introduction: Brownian motion

Brownian motion is well known. This can be seen in Liquids, gases easily and can be seen in solids with high end electron microscopes. For example, lets observe a single colloid with an optical microscope. Observe a 2µm latex particle, which will undergo a constant motion in water within seconds of placing it in water in all the three dimensions. This random motion is called Brownian Motion. The sizes of the particles have a key role to play, the same type of motion is observed for colloids of 1 nm in diameter as well. This length corresponds to the dimensions of single molecules, biomolecules like DNA, RNA, proteins. They should therefore experience this type of motions. See very good explanations in the paper 'Life at low Reynolds number' by Purcell [1]. Here in this paper we will try to develop some equations for molecular forces, Brownian motions, coefficient of diffusion etc., using this Multi Molecule Theory instead of the age old 'single Molecule theory'.

Dynamic Universe Model of Cosmology may be a singularity free N-body solution. It uses Newton's law of Gravitation without any modification. The initial coordinates of every mass with initial velocities are to tend as input. It finds coordinates, velocities and accelerations of every mass UNIQUELY after every time-step. Here the answer is predicated on tensors rather than usual differential and integral equations. This solution is stable, don't diverge, didn't give any singularity or divided by zero errors during the last 18 years in solving various physical problems. With this model, it had been found with uniform mass distribution in space, the masses will colloid but no singularities. With non-uniform mass densities, the masses trend to rotate about one another after some time-steps and that they don't colloid. SITA (Simulation of Inter-intra-Galaxy Tautness and Attraction forces) may be a simple computer implementable solution of Dynamic Universe Model and other solutions were possible. An arbitrary number of 133 masses were taken in SITA simulations using an equivalent framework in solving various problems.

Euclidian space, real based coordinate axes, no space-time , non-uniform mass distribution, no imaginary dimensions, simple Engineering achievable physics are basis. This SITA simulation may be a calculation method employing a math framework and where we input values of masses, initial distances and velocities to urge various results. Based on these it achieves a non-collapsing and dynamically balanced set of masses i.e. a universe model without Bigbang & Black-hole singularities. This approach solves many prevalent mysteries like Galaxy disk formation, Missing mass problem in Galaxy –star circular velocities, Pioneer anomaly, New Horizons trajectory calculations and prediction, Blue shifted Galaxies in Expanding Universe... etc. With this Dynamic Universe model, we show Newtonian physics is sufficient for explaining most of the cosmological phenomena.

In Dynamic Universe Model, there are not any singularities and no collisions if we use heterogeneous mass distributions. When homogeneous mass distributions are used, there are collisions but no singularities. Resultant Universal gravity is calculated for each body for every timestep altogether the three dimensions. Conservation of energy, moment etc, were

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taken into consideration as shown within the Mathematical formulation.

A new type of tensor mathematics was developed called Dynamic Universe Model, which is a singularity free N-Body problem solution. This mathematical approach solves many physical problems that are not solvable otherwise.

What is an N-body problem?

One of the main problems faced by Newton in around 1650's is Kepler's third law. Then, at that time, Newton's main task was to derive Kepler's third law from Gravitation law. Finally Newton could solve this problem

by using Two-body problem formulation. It was published in 1687 in Newton's treatise 'Principia'. Of course attempts to arrive at a solution to the 3-body problem started with Sir Isaac Newton in 1687 in Principia. Later Many people tried to solve three body problem and in general N-body problem. Euler was the first to study the general n-body and in particular restricted 3-body problem, instead of planets in the solar system in the 1760s. He found it is difficult to solve the general 3-body problem as already said by Newton. He tried to solve the restricted 3-body problem in which one body has negligible mass and it is assumed that the motion of the other two can be solved as a two-body problem, the body with negligible mass having no effect on the other two. The problem is to determine the motion of the third body attracted to the other two bodies which orbit each other. Even this assumption does not seem to lead to an exact solution. Very little is known about the n-body problem for $n \geq 3$. Many of the early attempts to understand the 3-body problem were quantitative in nature, aiming at finding explicit solutions for special situations.

Dynamic Universe Model gives a solution for

Dynamic Universe Model suggests that the universe is not a Newtonian type static universe. According to this model, there was no Big bang singularity, so the question "What happened before Big bang?" does not arise. It states that ours is neither an expanding nor contracting universe. It is not infinite but it's a closed finite universe. Our universe is neither isotropic nor homogeneous. It is LUMPY. But it is not empty. It may not hold an infinite sink at the infinity to carry all the energy that's escaped. This is universe and no energy will leave of it. Ours isn't a gentle state universe within the sense, it doesn't require matter generation through empty spaces. No starting point of time is required. Time and spatial coordinates are often chosen as needed . No imaginary time, perpendicular to normal time axis, is required. No baby universes, black holes or wormholes were built in. This universe exists now within the present state, it existed earlier, and it'll still exist in future also during a similar way. All physical laws will work on any time and at anywhere . Evidences for the three dimensional rotations or the dynamism of the universe are often seen within the streaming motions of local group and native cluster. Here during this dynamic universe, both the red shifted and blue shifted Galaxies co-exist simultaneously.

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