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Prediction of large number of Blue shifted Galaxies by Dynamic Universe Model came true --Manuscript Draft--

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Dear Sir

I submitted a revised paper through email like all the earlier papers and I am afraid the revised one is not appearing in the web page.

I changed the title and made spelling and grammar corrections resubmitting you...

Hope you will tell me if any further corrections needed

Best regards

=snp

Prediction of large number of Blue shifted Galaxies by Dynamic Universe Model came true

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Abstract

There are many blue shifted Galaxies in our universe. Here in this paper we will see different simulations to make such predictions from the output pictures formed from the Dynamic Universe model. There are some old and a few new simulations where different point masses are placed in different distances in a 3D Cartesian coordinate grid; and are allowed to move on universal gravitation force (UGF) acting on each mass at that instant of time at its position. The output pictures depict the three dimensional orbit formations of point masses after some iterations. In an orbit so formed, some Galaxies are coming near (Blue shifted) and some are going away (Red shifted). In this paper the simulations predicted the existence of a large number of Blue shifted Galaxies, in an expanding universe, in 2004 itself. Over 8,000 blue shifted galaxies have been discovered extending beyond the Local Group, was confirmed by Hubble Space Telescope (HST) observations in the year 2009. Thus Dynamic Universe model predictions came true.

1. Introduction:

Dynamic Universe model is a singularity free tensor based math model. The tensors used are linear without using any differential or integral equations. Only one calculated output set of values exists. Data means properties of each point mass like its three dimensional coordinates, velocities, accelerations and its mass. Newtonian two-body problem used differential equations. Einstein's general relativity used tensors, which in turn unwrap into differential equations. Dynamic Universe Model uses tensors that give simple equations with interdependencies. Differential equations will not give unique solutions. Whereas Dynamic Universe Model gives a unique solution of positions, velocities and accelerations; for each point mass in the system for every instant of time. This new method of Mathematics in Dynamic Universe Model is different from all earlier methods of solving general N-body problem.

This universe exists now in the present state, it existed earlier, and it will continue to exist in future also in a similar way. All physical laws will work at any time and at any place. Evidences for the three dimensional rotations or the dynamism of the universe can be seen in the streaming motions of local group and local cluster. Here in this dynamic universe, both the red shifted and blue shifted Galaxies co-exist simultaneously.

In this paper, different sets of point masses were taken at different 3 dimensional positions at different distances. These masses were allowed to move according to the universal gravitation force (UGF) acting on each mass at that instant of time at its position. In other words each point mass is under the continuous and Dynamical influence of all the other

masses. For any N-body problem calculations, the more accurate our input data the better will be the calculated results; one should take extreme care, while collecting the input data. One may think that 'these are simulations of the Universe, taking 133 bodies is too less.' But all these masses are not same, some are star masses, some are Galaxy masses some clusters of Galaxies situated at their appropriate distances. All these positions are for their gravitational centres. The results of these simulation calculations are taken here.

Original submission of this paper was done on 2nd April 2004 to PRD1. Currently, this paper is being thoroughly revised and resubmitted. [8,9], Here in these simulations the universe is assumed to be heterogeneous and anisotropic. From the output data graphs and pictures are formed from this Model. These pictures show from the random starting points to final stabilized orbits of the point masses involved. Because of this dynamism built in the model, the universe does not collapse into a lump (due to Newtonian gravitational static forces). This Model depicts the three dimensional orbit formations of involved masses or celestial bodies like in our present universe. From the resulting graphs one can see the orbit formations of the point masses, which were positioned randomly at the start. An orbit formation means that some Galaxies are coming near (Blue shifted) and some are going away (Red shifted) relative to an observer's viewpoint.

New simulations were conducted. The resulting data graphs of these simulations with different kinds of input data are shown in this paper in the later parts.

In all these simulations, all point masses will have different distances, masses.

- Simulation 1: All point masses are Galaxies
- Simulation 2: All point masses are Globular Clusters
- Simulation 3: Globular Clusters 34 Galaxies 33 aggregates 33 conglomerations 33
- Simulation 4: Small star systems 10 Globular Clusters 100 Galaxies 8 aggregates 8 conglomerations 7

The problem with such simulations is the overwhelmingly large amounts of output data. Each simulation gives 3 dimensional vector data of accelerations, velocities, positions for every point mass in every iteration in addition to many types of derived data. A minimum of 133 x 18 dataset of 16 decimal digits will be generated in every iteration. It is data and data everywhere. It is a huge data mine indeed.

A point to be noted here is that the Dynamic Universe Model never reduces to General relativity on any condition. It uses a different type of mathematics based on Newtonian physics. This mathematics used here is simple and straightforward. As there are no differential equations present in Dynamic Universe Model, the set of equations give single solution in x y z Cartesian coordinates for every point mass for every time step. All the mathematics and the Excel based software details are explained in the three books published by the author[14, 15, 16] In the first book, the solution to N-body problem-called Dynamic Universe Model (SITA) is presented; which is singularity-free, inter-body collision free and dynamically stable. This is the Basic Theory of Dynamic Universe Model published in 2010 [14]. The second book in the series describes the SITA software in EXCEL emphasizing the singularity free portions. It explains more than 21,000 different equations (2011)[15]. The third book describes the SITA software in EXCEL in the accompanying CD / DVD emphasizing mainly HANDS ON usage of a simplified version in an easy way. The third book contains explanation for 3000 equations instead of earlier 21000 (2011)[16].

SITA solution can be used in many places like presently unsolved applications like Pioneer anomaly at the Solar system level, Missing mass due to Star circular velocities and Galaxy disk formation at Galaxy level etc. Here we are using it for prediction of blue shifted Galaxies.

2. History of Blue shifted Galaxies ---Let's start with Charles Messier

After 1922 Hubble published a series of papers in Astrophysical Journal describing various Galaxies and their red shifts / blue shifts. Using the new 100 inch Mt. Wilson telescope, Edwin Hubble[22,23,26] was able to resolve the outer parts of some spiral nebulae as collections of individual stars and identified some Cepheid variables, thus allowing him to estimate the distance to the nebulae: they were far too distant to be part of the Milky Way. And later using 200 inch Mt Palomar telescope Hubble could refine his search. In 1936 Hubble produced a classification system for galaxies that is used to this day, the Hubble sequence.

In the 1970s it was discovered in [Vera Rubin's](#) study of the [rotation speed](#) of gas in galaxies that the total visible mass (from the stars and gas) does not properly account for the speed of the rotating gas. This galaxy rotation problem is thought to be explained by the presence of large quantities of unseen [dark matter](#).^{[1][2]}

From 1970 to 2006 there were as many as 248 papers published in various journals describing the Blue shift properties of Quasars.^[4]

Beginning in the 1990s, the Hubble Space Telescope yielded improved observations. Among other things, it established that the missing dark matter in our galaxy cannot solely consist of inherently faint and small stars. ^[5] The Hubble Deep Field, an extremely long exposure of a relatively empty part of the sky, provided evidence that there are about 125 billion (1.25×10^{11}) galaxies in the universe.^[6] Improved technology in detecting the spectra invisible to humans (radio telescopes, infrared cameras, and x-ray telescopes) allow detection of other galaxies that are not detected by Hubble. Particularly, galaxy surveys in the Zone of Avoidance (the region of the sky blocked by the Milky Way) have revealed a number of new galaxies.^[7]

Hubble Space Telescope's improved observational capabilities resolved as many as 8300 galaxies as Blue shifted till today which will discuss later in this paper. See Wikipedia for some further details.^[3]

3. Prediction of Blue shifted Galaxies

3.1. Co-Existence of Red and Blue shifted Galaxies

These simulations predicted the existence of the large number of Blueshifted Galaxies in 2004, ie., more than about 35 ~ 40 Blueshifted Galaxies known at the time of Astronomer Edwin Hubble in 1930s. The far greater numbers of Blueshifted galaxies was confirmed by the Hubble Space Telescope (HST) observations in the year 2009. Today the known number of Blue shifted Galaxies is more than 8000 scattered all over the sky and the number is increasing day by day. In addition Quasars, UV Galaxies, X-ray, γ - Ray sources and other Blue Galaxies etc., are also Blue shifted Galaxies. Out of a 930,000 Galaxy spectra in the SDSS database, 40% are images for Galaxies; that gives to 558,000 Galaxies. There are 120,000 Quasars, 50,000 brotherhood of (X-ray, γ -ray, Blue Galaxies etc.) of quasars, 8300 blue shifted galaxies. That is more than 31.7% of available Galaxy count are Blue shifted.

3.2. Dynamic Universe Model: Blue and Red shifted Galaxies:

In this Dynamic Universe Model – Galaxies in a cluster are rotating and revolving. Depending on the position of observer's position relative to the set of galaxies, some may appear to move away, and others may appear to come near. The observer may also be residing in a solar system, revolving around the center of Milky Way in a local group. He is observing the galaxies outside. Many times he can observe only the coming near or going away component of the light ray called Hubble components. The other direction cosines of the movement may not be possible to measure exactly in many cases. It is an immensely complicated problem to untangle the two and pin point the cause of non-Hubble velocities. (See JV.Narlikar, (1983)[28]) 'Near by Galaxies Atlas' published by Tully and Fischer contains detailed maps and distribution of speeds of Galaxies in the relatively local region.

The multi component model used by them uses the method of least squares. Hence we can say that Galactic velocities are possible in all the directions.

3.3. Present-day peculiar motions of Galaxies, Hubble flow, Distant Red-shifted Galaxies:

'Peculiar motions' of Galaxies is the thing predicted by Dynamic Universe Model theoretically, whereas a Bigbang based cosmology predicts only radially outward motion from earth or red-shifted Galaxies and no blue-shifted Galaxies at all.

Local group of Galaxies are present up to a distance of 3.6 MPC. From that point onwards, we will find red-shifted Galaxies. I don't know where actually *Hubble flow* starts. But I think that is the distance of 3.6 MPC where so called Hubble-flow starts. If the Hubble flow does not start here, why do red-shifted galaxies appear from this distance onwards? If the Hubble-flow is such strong, why would it leave some 8300 blue-shifted Galaxies? Anybody can see the updated list of Blue shifted Galaxies in the ref [32, 33] . We are discussing 'Hubble flow' as some unknown force pulling away all the galaxies to cause the expansion of universe. But in reality it is the going away component of 'peculiar motion' of that particular Galaxy. That Galaxy may be moving in any direction in reality. Each Galaxy move independently, with the gravitational force of its Local group, clusters etc. There is no separate Hubble force to cause a separate Hubble flow...

Different estimates of distances of Blue-shifted Galaxies especially in Virgo Cluster are varying. There are about 3000 blue-shifted Galaxies in Virgo cluster. Some estimate for the most distant Blue-shifted Galaxy in Virgo cluster may go as high as 40 MPC, and other estimate go as low as 17 MPC. I don't know whom to believe. Here distance estimate is not dependent on Red / Blue shift, but dependent on various other methods. Here probably the distance and red shift proportionality is not working. So we can see that blue shifted Galaxies are not confining to earlier thinking of 3.6 MPC distances. Here, the estimated distance is not depending on Red / Blue shift, but on various other methods. Accurate measurement of distances after 40 MPC depends mostly on red-shift only. There is a hope to find an accurate estimate of distance, if type 1a Supernova standard candle is observed in a Galaxy. When we are estimating the distance with red-shift, finding far off blue-shifted Galaxies is not possible.

All these findings are from some recent times only. Hence nothing can be said about the peculiar motions of blue shifted Galaxies. All these velocities are at present radial velocities only. A lot of work is to be done in these lines.

In general, whether the Source is emitting radiation in Infrared (Microwave or some lower frequencies) region or lower, or the Source is in Ultra violet (X-rays or higher) frequency region, we take the source as red-shifted only. The sources which emit only X-rays were taken as red-shifted, though by definition, X-rays are blue-shifted, due to their higher frequency. Even if the source is emitting a single frequency radiation, we find it is only red-shifted.

4. Mathematical Background

The mathematics of Dynamic Universe Model is published and is available in many open access papers. The following linear tensor equation (1) is the basis for all these calculations.

$$\Phi_{ext}(\alpha) = - \sum_{\substack{\beta=1 \\ \alpha \neq \beta}}^{N^\gamma} \frac{Gm_\beta^\gamma}{|x^{\gamma\beta} - x^{\gamma\alpha}|} - \sum_{\substack{\beta=1 \\ \alpha \neq \beta}}^{N^{\delta\gamma}} \frac{Gm_\beta^{\delta\gamma}}{|x^{\delta\gamma\beta} - x^{\delta\gamma\alpha}|} \quad (1)$$

This concept can be extended to still higher levels in a similar way.

4.1. Table of Initial values for new Blue shifted Galaxies simulation:

Any simulation requires initial data, and the initial data for one of these simulations is shown here. Table 1 describes the simulated initial values used in one of the new SITA calculations. In this particular simulation Globular clusters (system*10⁹) are 34 nos, galaxies (Ensemble) are 33, clusters of Galaxies (aggregates) are 33 nos, Groups of Galaxy clusters (Conglomeration) are 33 nos. Data for other simulations can be received from me.

Table 1 :This table describes the simulated initial values used in SITA calculations. In this simulation Globular clusters (system*10⁹) are 34 no's, galaxies (Ensemble)are 33, clustersof Galaxies (aggregates) are 33 no's, Groups of Galaxy clusters (Conglomeration) are 33 nos. The name field gives list of various point masses. Later columns given names of simulated values for Mass in Kg as Masssimu(kg), x, y and z Cartesian coordinates in meters as simu (M), ysimu (M) and zsimu (M)

| Sl.no | Name | Masssimu(kg) | xsimu (M) | ysimu (M) | zsimu (M) |
|-------|------------------------|--------------|-------------|-------------|-------------|
| 1 | system*10 ⁹ | 1.75565E+39 | 3.99073E+23 | 1.07631E+23 | 6.85616E+23 |
| 2 | system*10 ⁹ | 2.09947E+38 | 1.21571E+22 | 5.57782E+23 | 6.38758E+23 |
| 3 | system*10 ⁹ | 2.45627E+39 | 2.88163E+23 | 4.23183E+23 | 1.39698E+23 |
| 4 | system*10 ⁹ | 9.23353E+38 | 7.86777E+23 | 2.95101E+23 | 3.88141E+24 |
| 5 | system*10 ⁹ | 1.19787E+39 | 9.36077E+23 | 3.07528E+23 | 5.04977E+23 |
| 6 | system*10 ⁹ | 1.93226E+39 | 6.97937E+22 | 7.92421E+22 | 6.70014E+23 |
| 7 | system*10 ⁹ | 3.61864E+39 | 9.24514E+23 | -1.0474E+24 | 4.26811E+23 |
| 8 | system*10 ⁹ | 1.42913E+39 | 8.12205E+22 | -5.9916E+23 | 4.06114E+23 |
| 9 | system*10 ⁹ | 3.5089E+39 | 2.89863E+23 | 2.70638E+23 | 1.30011E+23 |
| 10 | system*10 ⁹ | 1.25887E+39 | 3.78453E+23 | 1.91098E+23 | 4.12623E+23 |
| 11 | system*10 ⁹ | 3.18788E+39 | 1.70008E+23 | 3.91908E+23 | 1.15619E+23 |
| 12 | system*10 ⁹ | 3.24908E+38 | 5.81118E+23 | 5.95674E+22 | 7.73711E+22 |
| 13 | system*10 ⁹ | 3.55436E+39 | 4.07928E+23 | 3.31886E+23 | 5.00698E+23 |
| 14 | system*10 ⁹ | 5.36937E+38 | 6.69753E+23 | 2.07648E+23 | 4.4004E+23 |
| 15 | system*10 ⁹ | 3.88911E+38 | 2.64462E+23 | 3.79183E+23 | 5.66444E+23 |
| 16 | system*10 ⁹ | 2.09897E+39 | 2.62335E+23 | 5.95371E+23 | 3.22433E+23 |
| 17 | system*10 ⁹ | 4.27119E+38 | 7.2159E+22 | 5.20601E+23 | 4.32663E+23 |
| 18 | system*10 ⁹ | 1.32491E+39 | 6.52209E+23 | 3.95969E+23 | 7.37262E+22 |
| 19 | system*10 ⁹ | 3.75831E+39 | -2.6519E+23 | - | - |

| Sl.no | Name | Massimu(kg) | xsimu (M) | ysimu (M) | zsimu (M) |
|-------|-------------|-------------|------------------|------------------|------------------|
| | | | | 3.67308E+23 | 1.29564E+20 |
| 20 | system*10^9 | 3.76154E+38 | 3.67288E+23 | -2.6112E+23 | 3.56769E+23 |
| 21 | system*10^9 | 9.38079E+38 | -7.8045E+23 | 3.996E+23 | - 3.48175E+23 |
| 22 | system*10^9 | 1.93662E+39 | - 3.68859E+23 | 1.49912E+24 | - 6.79405E+23 |
| 23 | system*10^9 | 6.41329E+38 | - 5.11964E+23 | -1.5063E+23 | -7.388E+23 |
| 24 | system*10^9 | 2.50257E+39 | 3.35717E+23 | -2.0403E+23 | 5.44432E+23 |
| 25 | system*10^9 | 2.43419E+39 | 5.33339E+23 | 1.6443E+23 | - 3.80681E+23 |
| 26 | system*10^9 | 2.15923E+38 | 4.58074E+23 | - 8.11834E+22 | - 2.52318E+23 |
| 27 | system*10^9 | 1.66821E+39 | 4.68993E+23 | - 8.34088E+23 | - 9.36082E+23 |
| 28 | system*10^9 | 1.74241E+39 | -9.1552E+23 | - 3.85555E+22 | - 8.35412E+23 |
| 29 | system*10^9 | 2.05989E+39 | 2.9164E+23 | 6.33534E+22 | 4.68262E+23 |
| 30 | system*10^9 | 3.52767E+38 | - 3.72321E+24 | - 2.34345E+24 | - 1.51898E+24 |
| 31 | system*10^9 | 3.10941E+38 | 4.93773E+23 | 2.11776E+22 | 5.5159E+23 |
| 32 | system*10^9 | 3.24937E+39 | 1.61568E+24 | - 9.02699E+23 | - 3.82402E+23 |
| 33 | system*10^9 | 2.01044E+39 | - 5.81344E+23 | 4.2434E+23 | - 4.31013E+23 |
| 34 | system*10^9 | 2.81303E+39 | 2.68567E+23 | 7.74413E+23 | - 1.64272E+23 |
| 35 | Ensemble | 7.26078E+41 | 1.51056E+23 | 5.18955E+23 | 6.19859E+23 |
| 36 | Ensemble | 4.80764E+41 | 4.46609E+23 | 8.9169E+22 | 6.27668E+23 |
| 37 | Ensemble | 3.1268E+41 | 5.82989E+23 | 1.92168E+23 | 6.18446E+23 |
| 38 | Ensemble | 1.45478E+41 | 9.81174E+22 | 6.02944E+23 | 4.13238E+23 |
| 39 | Ensemble | 2.32719E+40 | 2.88898E+23 | 1.76287E+23 | 3.75715E+23 |
| 40 | Ensemble | 2.70542E+40 | 4.17943E+23 | 7.24108E+22 | 6.23916E+23 |
| 41 | Ensemble | 6.49533E+41 | 6.08395E+23 | 1.80551E+23 | 5.06828E+23 |
| 42 | Ensemble | 4.55343E+41 | 1.24974E+23 | 2.5863E+23 | 6.11016E+23 |
| 43 | Ensemble | 4.76509E+40 | 5.74263E+23 | 5.27962E+23 | 5.81186E+22 |
| 44 | Ensemble | 2.92001E+41 | 5.85062E+23 | 2.0372E+23 | 6.4617E+23 |
| 45 | Ensemble | 1.34541E+41 | 3.13037E+22 | 5.75129E+23 | 5.55411E+23 |
| 46 | Ensemble | 3.17307E+41 | 1.82172E+23 | 5.95539E+23 | 1.96816E+23 |
| 47 | Ensemble | 3.43282E+41 | 5.6981E+23 | 4.76143E+23 | 5.9402E+23 |
| 48 | Ensemble | 1.43748E+41 | 6.14636E+22 | 3.21455E+23 | 5.40045E+23 |
| 49 | Ensemble | 5.39188E+41 | 4.87966E+23 | 2.09551E+23 | 4.03295E+23 |
| 50 | Ensemble | 6.17372E+41 | 4.16837E+23 | 2.99966E+23 | 5.27541E+23 |
| 51 | Ensemble | 2.62018E+41 | 5.10779E+23 | 4.7015E+23 | 9.1047E+22 |
| 52 | Ensemble | 6.66009E+41 | 2.93714E+23 | 5.60342E+23 | 2.98536E+23 |
| 53 | Ensemble | 7.74679E+41 | 1.49428E+23 | 4.37289E+23 | 2.0654E+23 |
| 54 | Ensemble | 6.84456E+40 | 5.03912E+23 | 3.30866E+23 | 6.38264E+23 |

| Sl.no | Name | Masssimu(kg) | xsimu (M) | ysimu (M) | zsimu (M) |
|-------|-----------|--------------|-------------|-------------|-------------|
| 55 | Ensemble | 2.59236E+41 | 6.09237E+23 | 6.14957E+23 | 1.36773E+23 |
| 56 | Ensemble | 3.8101E+41 | 4.27062E+23 | 8.62069E+22 | 6.25946E+23 |
| 57 | Ensemble | 7.21862E+41 | 4.22871E+23 | 1.92468E+23 | 5.40012E+23 |
| 58 | Ensemble | 6.66999E+40 | 1.64595E+23 | 3.22107E+23 | 5.45618E+23 |
| 59 | Ensemble | 6.43453E+40 | 3.13312E+23 | 3.33209E+23 | 3.6978E+23 |
| 60 | Ensemble | 6.62134E+40 | 3.91825E+23 | 1.443E+23 | 2.37588E+23 |
| 61 | Ensemble | 1.83363E+41 | 2.55768E+23 | 3.87713E+23 | 2.38595E+23 |
| 62 | Ensemble | 3.36029E+41 | 4.4996E+23 | 4.12499E+22 | 1.7769E+23 |
| 63 | Ensemble | 5.06205E+40 | 4.12032E+23 | 2.89951E+23 | 5.177E+23 |
| 64 | Ensemble | 7.57227E+41 | 4.25433E+22 | 1.55581E+23 | 5.80634E+23 |
| 65 | Ensemble | 2.29071E+41 | 4.13363E+23 | 1.59334E+23 | 3.81642E+23 |
| 66 | Ensemble | 3.7816E+41 | 9.54228E+22 | 6.16262E+23 | 4.19405E+22 |
| 67 | Ensemble | 7.40179E+41 | 1.45697E+23 | 2.18538E+23 | 5.039E+23 |
| 68 | Aggregate | 2.1751E+43 | 1.12916E+24 | 2.18509E+24 | 3.27743E+24 |
| 69 | Aggregate | 3.08556E+43 | 3.28259E+24 | 2.71725E+24 | 1.29093E+24 |
| 70 | Aggregate | 2.99302E+43 | 1.81888E+24 | 1.5553E+24 | 3.03454E+24 |
| 71 | Aggregate | 3.00749E+43 | 2.3256E+24 | 2.51278E+24 | 3.1908E+24 |
| 72 | Aggregate | 1.17562E+43 | 8.54224E+23 | 2.79253E+24 | 1.45778E+24 |
| 73 | Aggregate | 7.68546E+43 | 1.96452E+24 | 7.68502E+23 | 3.36263E+24 |
| 74 | Aggregate | 5.98369E+43 | 2.68713E+24 | 1.79794E+24 | 1.41059E+24 |
| 75 | Aggregate | 2.17584E+43 | 2.73675E+24 | 1.26239E+24 | 2.77373E+24 |
| 76 | Aggregate | 5.5096E+43 | 2.22694E+24 | 1.88525E+24 | 1.35037E+24 |
| 77 | Aggregate | 4.87048E+42 | 3.38846E+22 | 2.77453E+24 | 2.79044E+24 |
| 78 | Aggregate | 1.42425E+43 | 7.45192E+23 | 1.69793E+23 | 2.19225E+24 |
| 79 | Aggregate | 1.34573E+43 | 1.14507E+24 | 7.74437E+22 | 2.48303E+24 |
| 80 | Aggregate | 2.26606E+43 | 1.04586E+24 | 8.27576E+23 | 9.22288E+23 |
| 81 | Aggregate | 4.88953E+43 | 2.02608E+24 | 2.81436E+24 | 3.49929E+23 |
| 82 | Aggregate | 3.40258E+43 | 2.21546E+24 | 1.76897E+24 | 3.05996E+23 |
| 83 | Aggregate | 1.24653E+43 | 6.22977E+23 | 3.92687E+23 | 8.23508E+23 |
| 84 | Aggregate | 7.61555E+43 | 7.21901E+23 | 8.64179E+22 | 9.09994E+23 |
| 85 | Aggregate | 3.93813E+43 | 1.07083E+24 | 1.79871E+24 | 1.28994E+24 |
| 86 | Aggregate | 6.13712E+43 | 3.17061E+24 | 2.46813E+24 | 2.16707E+23 |
| 87 | Aggregate | 5.40912E+43 | 1.85541E+24 | 1.81311E+24 | 1.2122E+24 |
| 88 | Aggregate | 2.17062E+43 | 1.87703E+24 | 9.27852E+23 | 2.77388E+24 |
| 89 | Aggregate | 6.24105E+43 | 9.11597E+23 | 3.26576E+24 | 2.30219E+24 |
| 90 | Aggregate | 3.99495E+43 | 2.56446E+24 | 6.15614E+23 | 3.00488E+24 |
| 91 | Aggregate | 3.79696E+43 | 3.08212E+24 | 5.66534E+23 | 2.8146E+24 |
| 92 | Aggregate | 3.51986E+43 | 3.3025E+24 | 2.3882E+24 | 1.26893E+24 |
| 93 | Aggregate | 4.96564E+43 | 3.34084E+24 | 2.54663E+24 | 2.3476E+24 |
| 94 | Aggregate | 5.59724E+43 | 2.51465E+23 | 3.23554E+24 | 1.55807E+24 |
| 95 | Aggregate | 5.60399E+43 | 3.3624E+24 | 2.3246E+24 | 2.79062E+24 |
| 96 | Aggregate | 7.58253E+43 | 2.43298E+24 | 3.32774E+24 | 1.41755E+24 |
| 97 | Aggregate | 3.8053E+43 | 1.94438E+24 | 3.31405E+24 | 3.09916E+24 |

| Sl.no | Name | Massimu(kg) | xsimu (M) | ysimu (M) | zsimu (M) |
|-------|----------------|-------------|-------------|-------------|-------------|
| 98 | Aggregate | 2.74726E+43 | 5.51194E+23 | 1.6254E+24 | 3.33161E+22 |
| 99 | Aggregate | 7.96818E+43 | 2.43892E+24 | 1.61732E+24 | 6.62601E+23 |
| 100 | Aggregate | 3.46595E+42 | 1.16588E+23 | 3.21749E+24 | 5.63849E+23 |
| 101 | Conglomeration | 7.46047E+44 | 1.50662E+25 | 2.25394E+25 | 1.74483E+25 |
| 102 | Conglomeration | 6.81618E+43 | 2.10456E+25 | 2.11175E+25 | 1.36932E+25 |
| 103 | Conglomeration | 2.38008E+45 | 3.08242E+24 | 3.842E+24 | 2.00252E+25 |
| 104 | Conglomeration | 4.15422E+44 | 3.1135E+24 | 2.70137E+25 | 2.62158E+25 |
| 105 | Conglomeration | 3.61797E+45 | 8.28344E+24 | 3.02318E+25 | 1.55839E+25 |
| 106 | Conglomeration | 5.5117E+45 | 8.52922E+24 | 7.95637E+24 | 1.73499E+24 |
| 107 | Conglomeration | 4.61846E+45 | 1.69532E+25 | 2.17678E+25 | 2.70124E+25 |
| 108 | Conglomeration | 7.60018E+45 | 1.9218E+25 | 1.10081E+25 | 1.05425E+24 |
| 109 | Conglomeration | 5.28838E+45 | 1.49116E+25 | 1.49376E+25 | 2.52626E+25 |
| 110 | Conglomeration | 7.27524E+45 | 1.36036E+24 | 1.17687E+25 | 2.65841E+25 |
| 111 | Conglomeration | 2.10996E+45 | 2.03258E+25 | 2.63907E+25 | 9.00889E+24 |
| 112 | Conglomeration | 3.90638E+45 | 2.02511E+25 | 5.14072E+24 | 2.79663E+24 |
| 113 | Conglomeration | 7.23998E+45 | 1.43321E+25 | 2.64771E+25 | 3.5707E+24 |
| 114 | Conglomeration | 3.47803E+45 | 2.02337E+25 | 1.27156E+24 | 2.32456E+25 |
| 115 | Conglomeration | 7.48605E+45 | 2.94887E+25 | 1.96983E+25 | 1.63748E+25 |
| 116 | Conglomeration | 5.53006E+44 | 3.16211E+25 | 2.62656E+24 | 3.28171E+25 |
| 117 | Conglomeration | 3.25957E+43 | 9.97442E+24 | 1.18156E+25 | 1.05297E+25 |
| 118 | Conglomeration | 5.92181E+45 | 2.70747E+23 | 1.45245E+25 | 3.98641E+24 |
| 119 | Conglomeration | 1.12751E+45 | 2.27955E+25 | 2.67403E+25 | 4.28316E+24 |
| 120 | Conglomeration | 2.16786E+45 | 4.4791E+24 | 1.07386E+25 | 2.51732E+25 |
| 121 | Conglomeration | 1.32687E+45 | 1.12129E+25 | 5.45469E+24 | 3.25815E+25 |
| 122 | Conglomeration | 3.10389E+45 | 1.77042E+25 | 7.57316E+24 | 1.67658E+25 |
| 123 | Conglomeration | 6.89384E+45 | 1.17721E+25 | 8.44441E+24 | 1.15594E+25 |
| 124 | Conglomeration | 7.90915E+45 | 2.12918E+25 | 1.6792E+24 | 3.03473E+25 |
| 125 | Conglomeration | 2.88438E+45 | 2.84453E+25 | 1.97839E+25 | 1.06428E+25 |
| 126 | Conglomeration | 1.51198E+45 | 5.57511E+24 | 2.4385E+25 | 1.03618E+25 |
| 127 | Conglomeration | 5.03592E+45 | 6.85521E+24 | 5.90104E+24 | 2.59929E+25 |
| 128 | Conglomeration | 1.14271E+45 | 1.382E+25 | 7.06359E+24 | 1.86355E+25 |
| 129 | Conglomeration | 6.75169E+45 | 2.30151E+25 | 1.92561E+25 | 1.41801E+25 |
| 130 | Conglomeration | 8.49221E+44 | 3.10792E+25 | 7.13891E+24 | 9.12634E+24 |
| 131 | Conglomeration | 8.12587E+44 | 9.49454E+23 | 3.07154E+24 | 8.16387E+24 |
| 132 | Conglomeration | 1.70194E+45 | 9.75637E+24 | 2.69975E+25 | 2.56403E+25 |
| 133 | Conglomeration | 4.86397E+45 | 2.58057E+24 | 2.59041E+25 | 2.15609E+25 |

5. SITA: Blue Shifted galaxies Graphs and Numerical Outputs& New simulations Resulting graphs of old simulations for Blue Shifted Galaxies

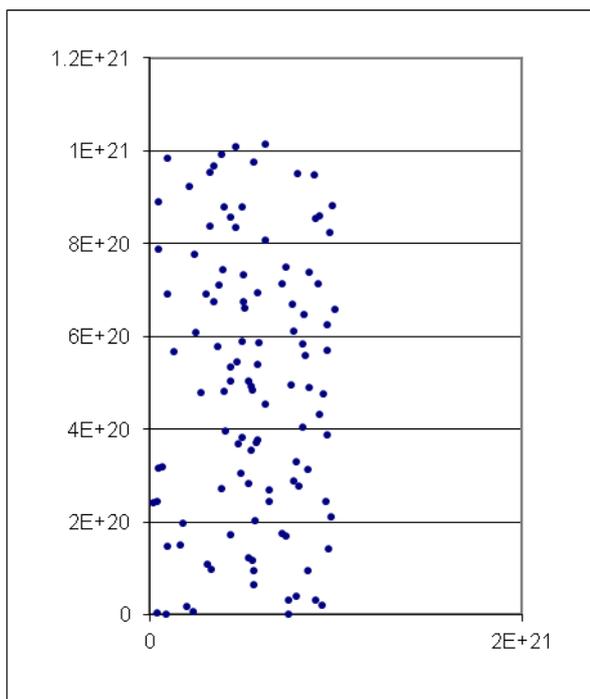
From these resulting graphs one can see the orbit formations. When a uniform density of matter is assumed, say an equal point mass is placed in a uniform way in a three dimensional grid, all the point masses are collapsing into the CG of the set of masses. That means all are **Blue** shifted. Orbit formations are happening only in non-uniform density distributions.

All the calculations were done using a small number of point masses. But the results were extremely encouraging. Always similar mass structures at large scale were formed in three dimensions showing lumpy formulations. Higher (super) computers can take up more number of point masses and show the empty nature of the formation to a greater detail in a faster manner.

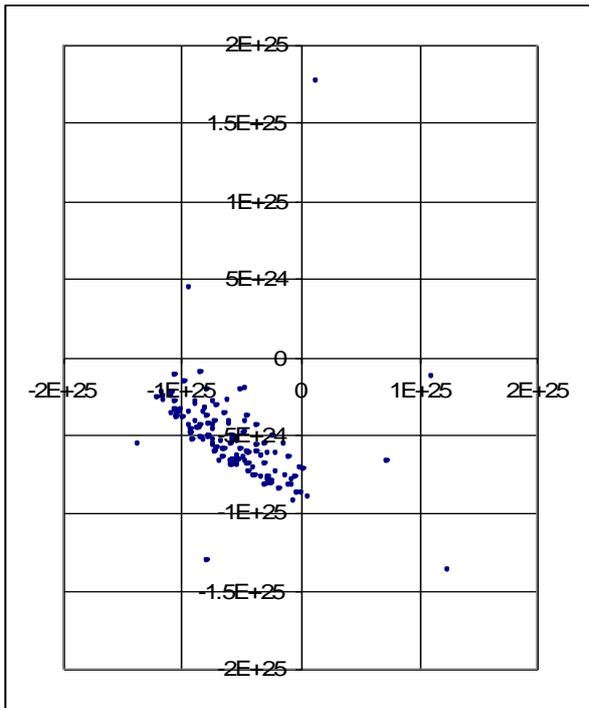
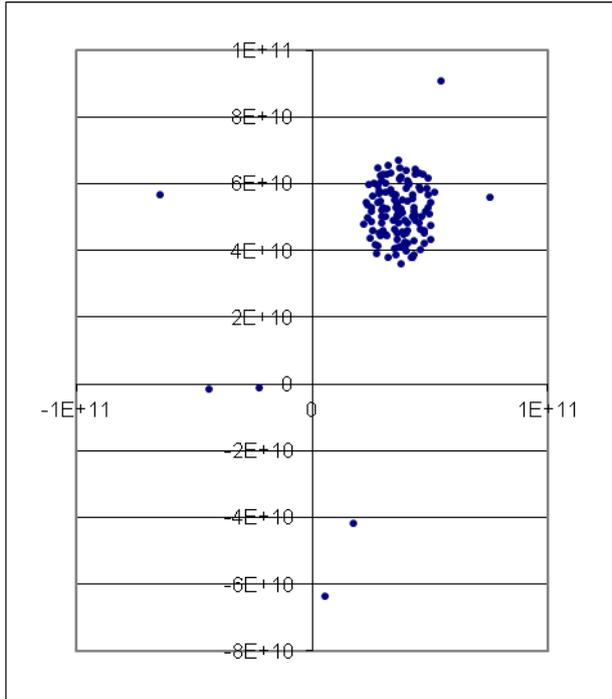
Irrespective various starting positions of masses, the final stabilized mass positions are similar. The higher distance between the masses like great walls, the faster the movements are. The extremely distant galaxies are moving faster with huge red and blue shifts and with high velocities. The following graphs are from the old 2004 paper. In this paper only typical pictures were presented.

- Graph G1 : Show initial random positions.
- Graph G3 : Shows picture after one time step, a lump formation was seen.
- Graph G4 : Now after two time steps the lump was stretched. Lump was still stretched after 3 time steps and initial mass rotation formations are seen.
- Graph G6 : Randomly positioned masses started showing circular orbit formations
- Graph G8 : Orbit formations are clearer and all masses started following huge orbits depending on the masses.

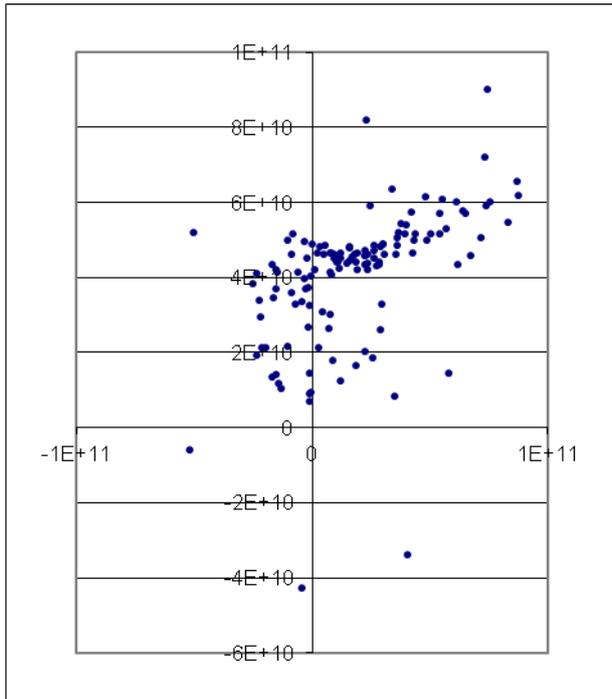
There is no gravitational collapse of masses. Here there was no gravitational repulsion was present. All masses form orbits and move in orbits.



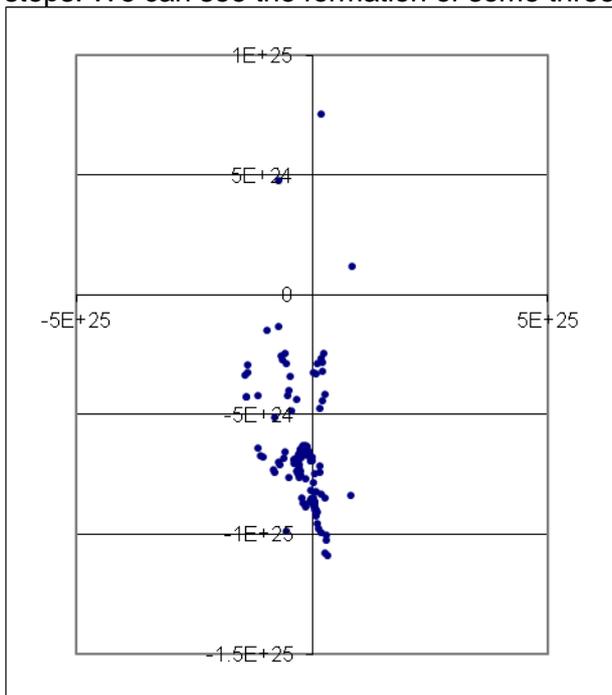
Graph: G1: starting pictures of xy positions of Clusters (right) and Globular Clusters (left), x and y axes scales represent distances in meters. These masses are randomly on xyz axes. An orbit formation means some Galaxies are coming near (Blue shifted) and some are going away (Red shifted).



Graph G3 and G4 represent the positions of all masses in this simulation, after one time-step and two time-steps. Here the masses hidden in the graph G1 are also visible which were visible as a small dot near the zero of xy axes, and which were shown in graph G1 in an more elaborate way. We can see the formation of some three-dimensional circles clearly.



Graph G6 represent the positions of all masses in this simulation, after three and four time-steps. We can see the formation of some three-dimensional circles clearly.



Graph G8 represent the positions of all masses in this simulation, after four time-steps and seven time-steps. We can see the formation of some three-dimensional circles clearly. That means orbit formation.

5.1. Four new simulations

New simulations were carried out on this subject. These are four more simulations with different kinds of input data. Four more files are being attached in Excel format which have all the output 3000 graphs and initial input data. Each is about 10 MB. In all these four simulations, all point masses have different distances and masses. The simulations are...

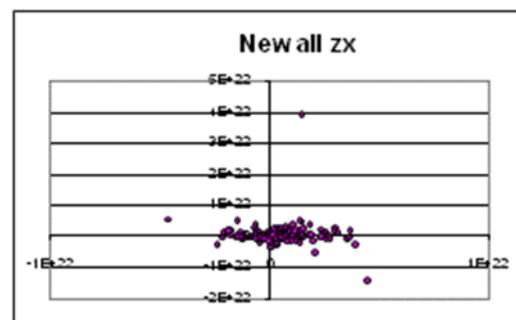
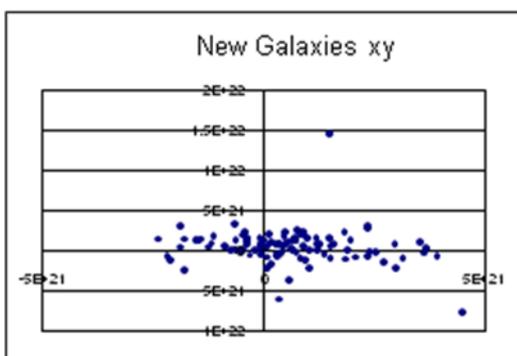
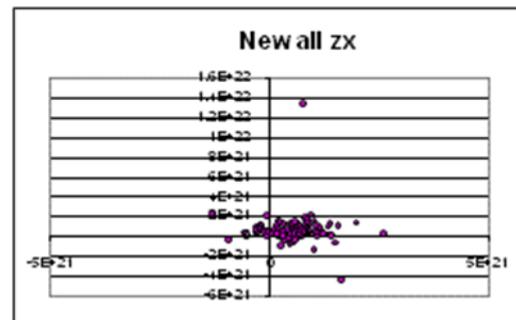
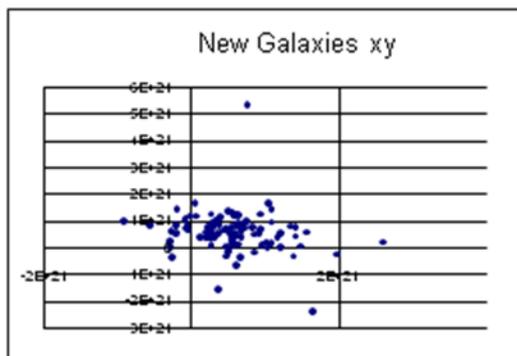
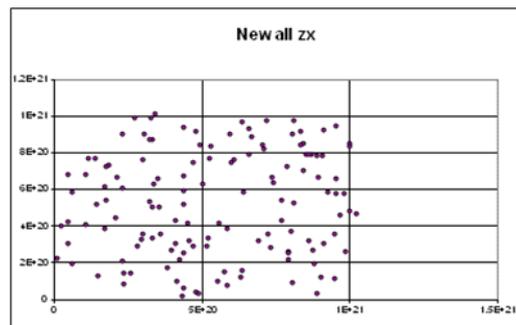
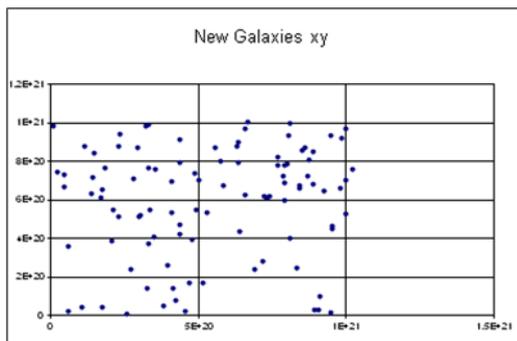
- All point masses are Galaxies
- All point masses are Globular Clusters
- Globular Clusters 34 Galaxies 33 aggregates 33 conglomerations 33
- Small star systems 10 Globular Clusters 100 Galaxies 8 aggregates 8 conglomerations 7

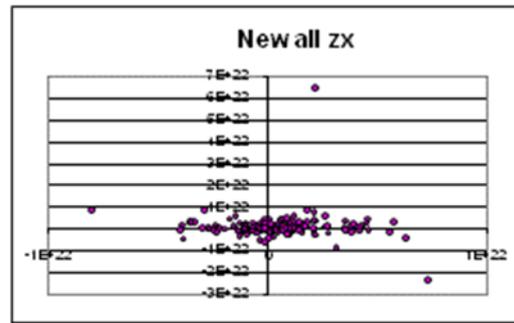
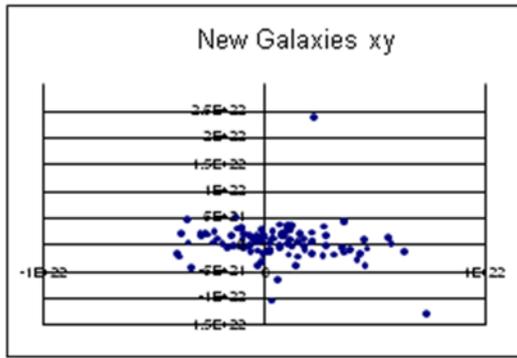
Rotations of Galaxies and orbit formations are visible in all types of formations. I will send any other data files upon further request.

5.2. Results of new simulations

Rotations of Galaxies and orbit formations are visible in all types of formations.

5.3. Graphs from 'all point masses are Clusters (approximately 10^9 stars) ' simulation

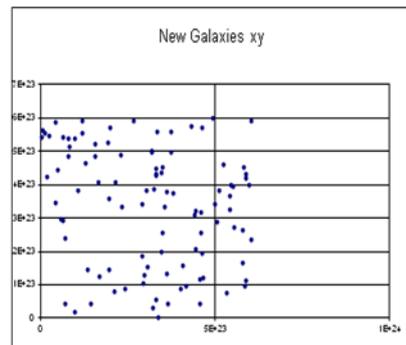
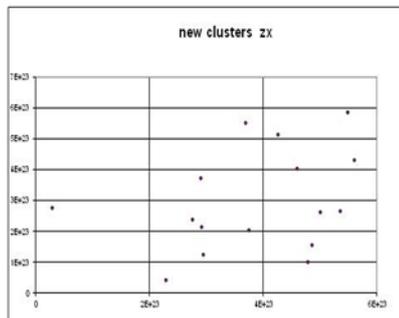




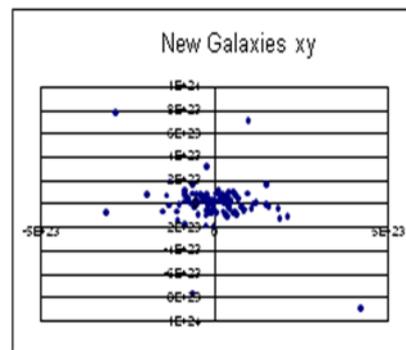
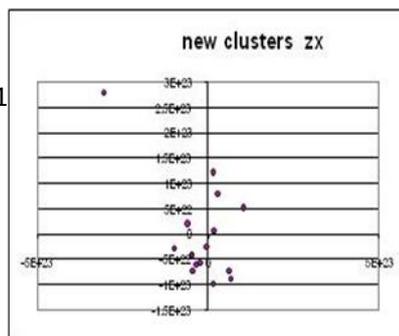
In the above set of figures First column group of Graphs were with the name New Galaxies xy. Figures in the second column group of Graphs were with the name New all zx. These are XY and ZX plots of positions of Clusters approximately have the mass of about a billion or 10^9 solar masses. First set is about 100 and second set is for all 133 Galaxies / clusters. All these are point masses for Galaxies but of smaller sizes. The word 'new' in the name is an indicative word for the result of that particular iteration in the simulation. The first iteration is the starting positions of the Galaxies in xy or zx plots. From that with a time step of $3.15576E+15$ seconds or 100 million years is allowed for the free fall of all the Galaxies. Next set of positions is shown in the iteration 1. After that is iteration 2 and so on. One can see the rotations of these masses. And the marked change of positions from iteration to iteration when we look through the series of graphs.

5.4. Graphs from 'All point masses are Galaxy Ensembles' simulation

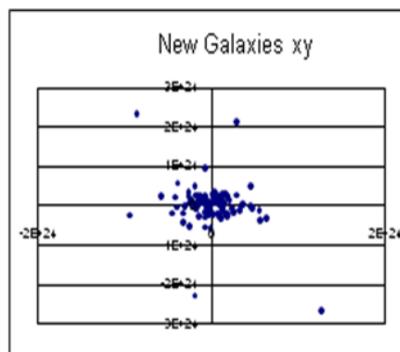
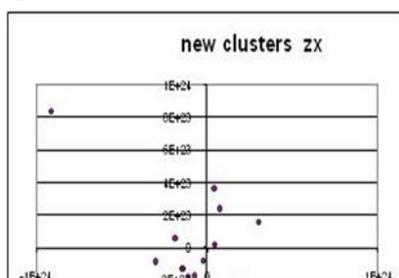
iteration
Start

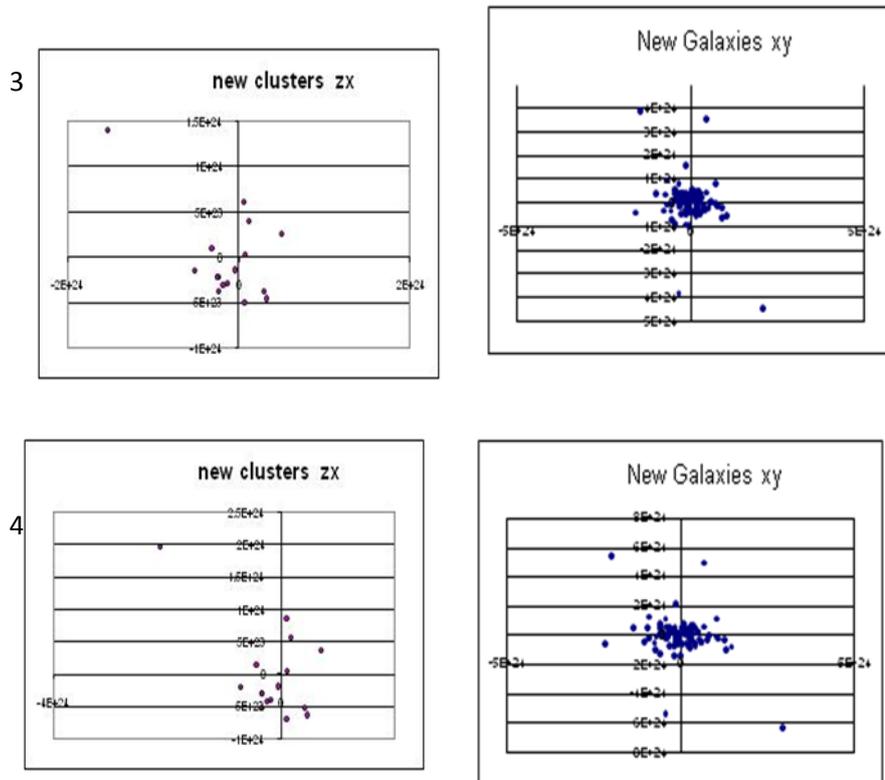


1



2





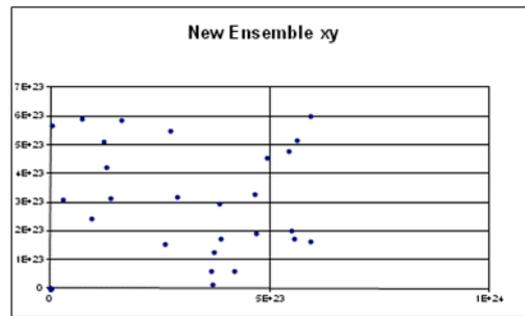
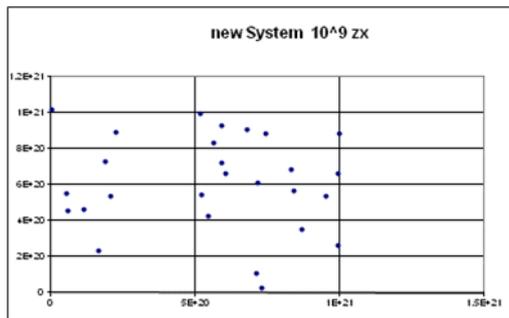
Here in this example (in this new simulation), in the above set of figures, the first column group of Graphs were with the name New Clusters zx. Figures in the second column group of Graphs were with the name New Galaxies xy. These are XY and ZX plots of positions of Clusters (or Galaxies) approximately have the mass of about a billion or 10^{12} solar masses. First set is about 20 and second set is for all 100 Galaxies / clusters. All these are point masses for Galaxies of normal sizes. The word 'new' in the name is an indicative word for the result of that particular iteration in the simulation. The first iteration is the starting positions of the Galaxies in xy or zx plots. From that with a time step of $3.15576E+15$ seconds or 100 million years is allowed for the free fall of all the Galaxies. Next set of positions is shown in the iteration 1. After that is iteration 2 and so on. One can see the rotations of these masses. And the marked change of positions from iteration to iteration when we look through the series of graphs.

The set of graphs depicting the positions of **all the point masses** were omitted here due to space constraints. The change in positions is visible only in the first few graphs for **all the point mass** positions.

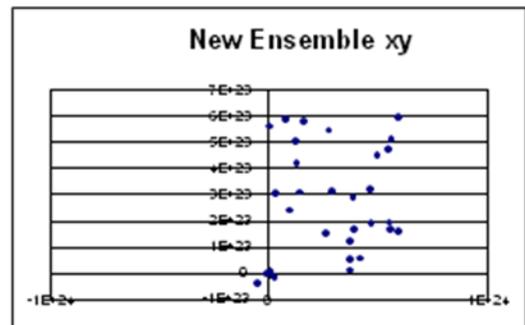
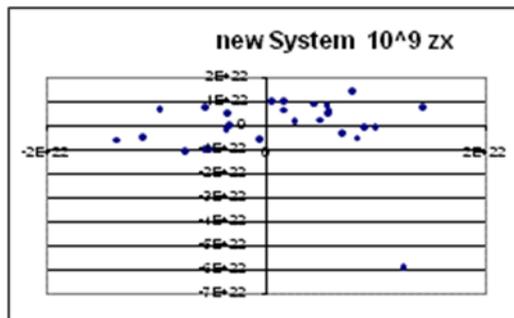
The 'New clusters zx' graphs indicate a subset of all Galaxies is rotating about. These graphs will show the observer, some Galaxies are coming near and some are going away. Hence these galaxies are either red shifted or blue shifted.

5.5. Graphs from 'Globular Clusters 34 Galaxies 33 aggregates 33 conglomerations 33' simulation

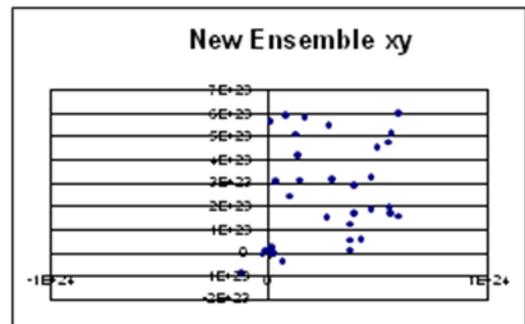
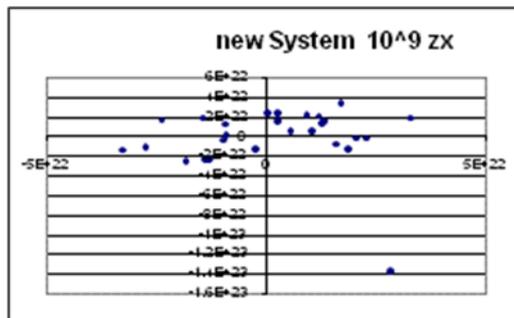
Iteration
Start



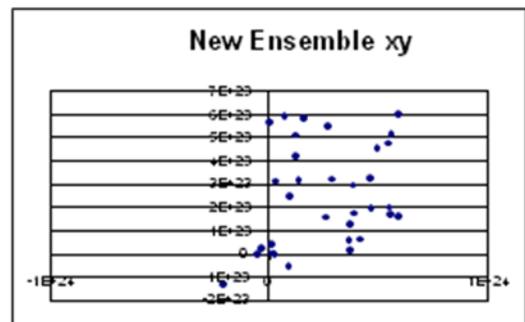
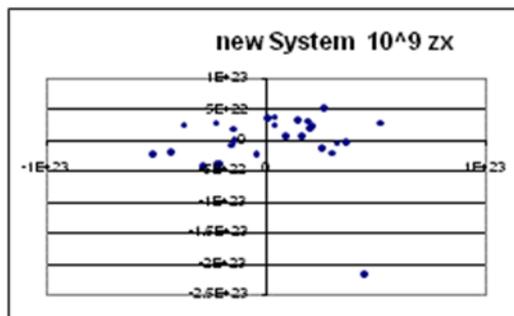
1



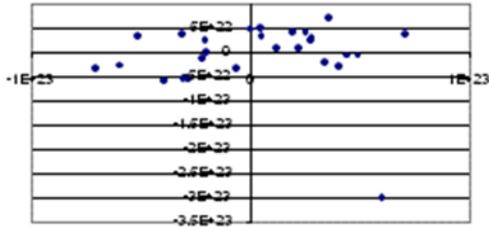
2



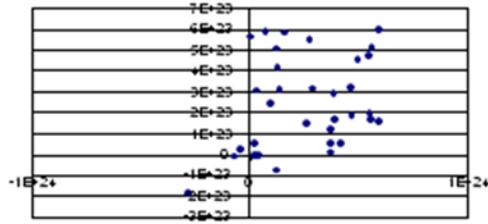
3



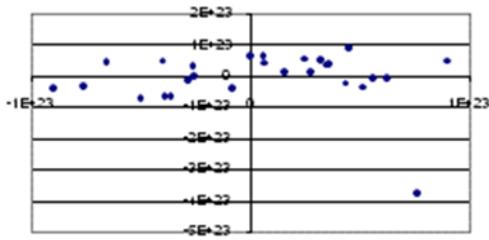
new System 10^9 zx



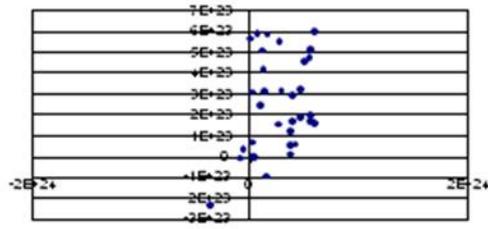
New Ensemble xy



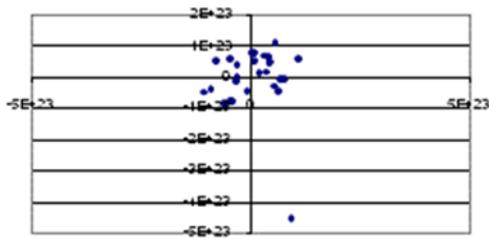
new System 10^9 zx



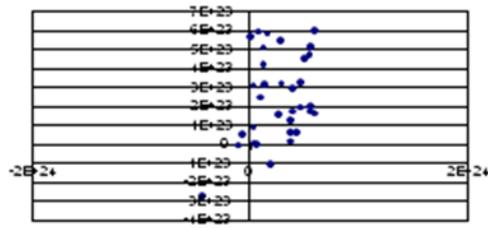
New Ensemble xy



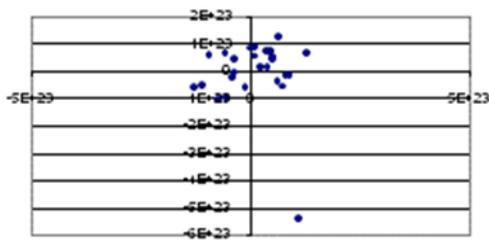
new System 10^9 zx



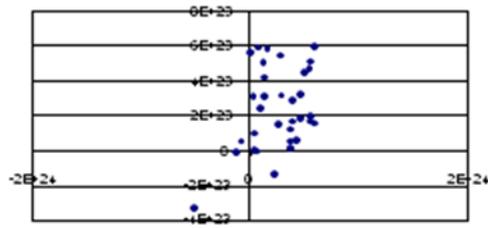
New Ensemble xy



new System 10^9 zx



New Ensemble xy

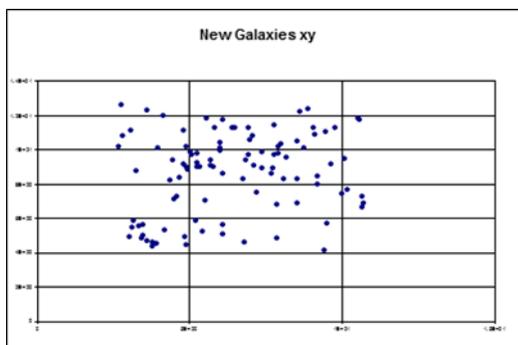


Here in this example (in this new simulation), in the above set of figures, the first column group of Graphs were with the name New System 10^9 zx. Figures in the second column group of Graphs were with the name New Ensembles xy. These are XY and ZX plots of positions of Globular Clusters and Galaxies approximately have the mass of about 100 million to a billion or 10^{12} solar masses. First set is about 34 and second set is for all 33 Galaxies. All these are point masses for Galaxies of normal sizes. The word 'new' in the name is an indicative word for the result of that particular iteration in the simulation. The first iteration is the starting positions of the Galaxies in xy or zx plots. From that with a time step of $3.15576E+16$ seconds or one billion years is allowed for the free fall of all the Galaxies. Next set of positions is shown in the iteration 1. After that is iteration 2 and so on. One can see the rotations of these masses. And the marked change of positions from iteration to iteration when we look through the series of graphs.

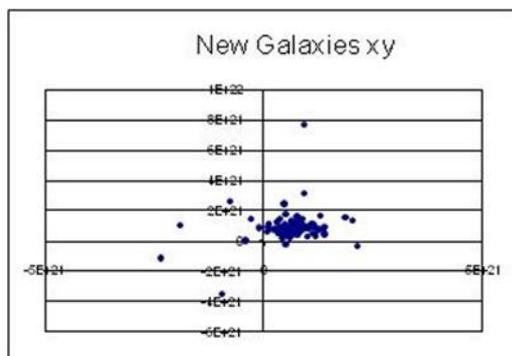
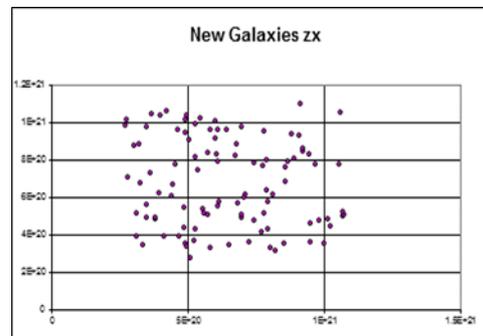
The set of graphs depicting the positions of **all the point masses** were omitted here due to space constraints. The change in positions is visible only in the first few graphs for **all the point mass** position graphs.

These two columns of graphs indicate all Galaxies are rotating about. These graphs show to the observer, some Galaxies are coming near and some are going away. Hence these galaxies are either red shifted or blue shifted.

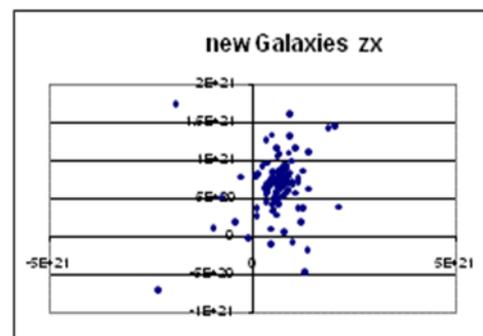
5.6. Graphs from 'Small star systems 10 Globular Clusters 100 Galaxies 8 aggregates 8 conglomerations 7' simulation

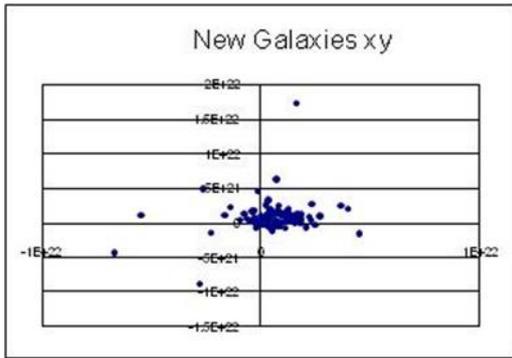


itr
Start

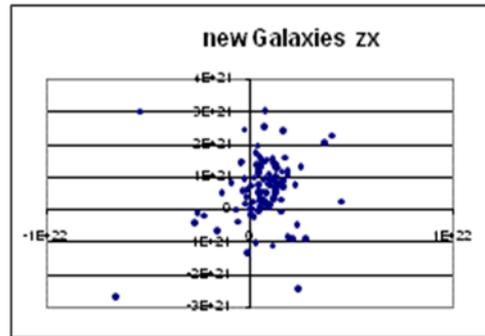


1

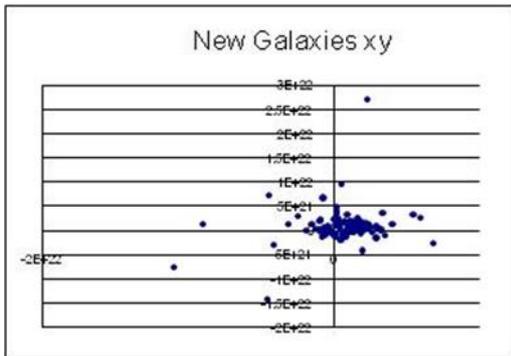




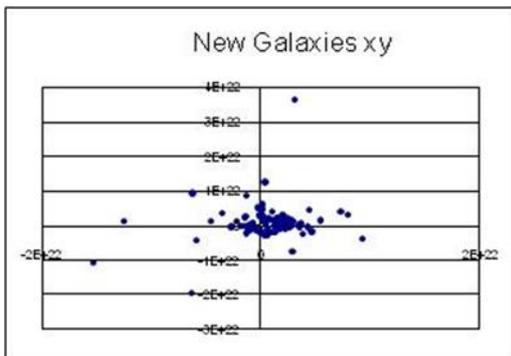
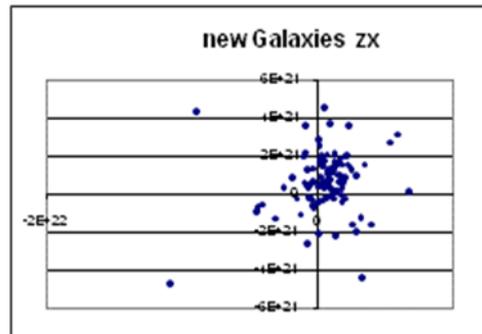
2



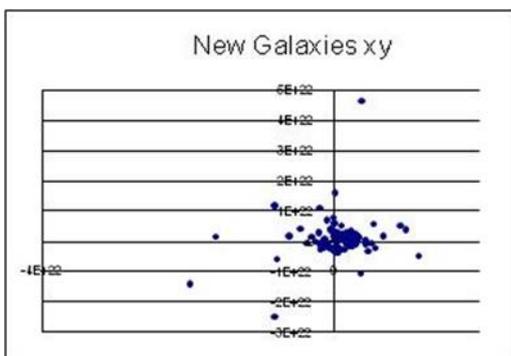
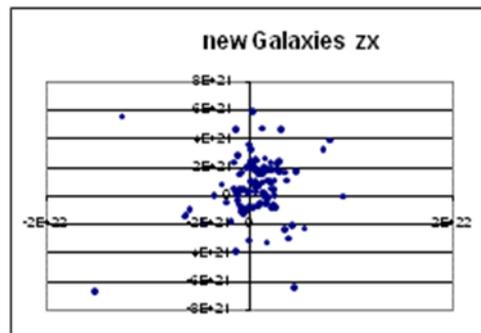
2



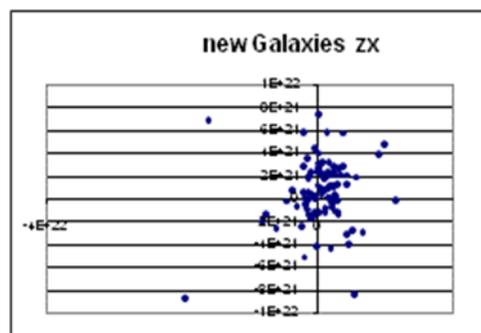
3



4



5



Here in this fourth example (in this new simulation), in the above set of figures, the first column group of Graphs were with the name New Galaxies xy. Figures in the second column group of Graphs were with the name New Galaxies zx. These are XY and ZX plots of positions of 100 Galaxies approximately have the mass of about a billion or 10^{12} solar masses.

Here xy and zx plots of the same 3 dimensional point mass positions were chosen so that one can imagine the three dimensional picture of the same set. These graphs represent the output of SITA simulations for the same iteration and for the same set of masses.

All these are point masses for Galaxies of normal sizes. The word 'new' in the name is an indicative word for the result of that particular iteration in the simulation. The first iteration is the starting positions of the Galaxies in xy or zx plots. From that with a time step of $3.15576E+15$ seconds or one billion years is allowed for the free fall of all the Galaxies. Next set of positions is shown in the iteration 1. After that is iteration 2 and so on. One can see the rotations of these masses. And the marked change of positions from iteration to iteration when we look through the series of graphs.

The set of graphs depicting the positions of **all the point masses, all other different varieties of masses** were omitted here due to space constraints. The change in positions is visible only in the first few graphs for **all the point mass** position graphs.

These two columns of graphs indicate all Galaxies are rotating about. These graphs show to the observer, some Galaxies are coming near and some are going away. Hence these galaxies are either red shifted or blue shifted.

6. Discussion:

In this model both red shift and blue shift of galaxies are possible simultaneously in all directions and at all distances from us. That depends only on location of distant rotating and revolving cluster.

We can say that:

1. The RATIO Blue to Red shifted galaxies will never be 50:50
2. The galaxies that appear to come near (Blue Shifted) will always present in the total number of galaxies. This number is not zero as predicted by expanding universe models.
3. The percentage of blue shifted galaxies will vary from place to place. That depends on many factors, like the FORMATION OF IMAGES IN THAT AREA. Images may be formed for the whole of local group itself.
4. The number of blue shifted Galaxies depend on the orientation of the planar revolving cluster of galaxies with respect us.
5. We will assume Hubble law for empirical distances of galaxies as $v = cz = H_0 D$. Where v is the velocity of the galaxy, c is the velocity of light, z is the red shift, D is the distance of galaxy, H_0 is the Hubble constant for distance only not for expansion of universe.

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6.1. Types of Blue Galaxies whose radiation is found in UV and above frequencies (Blue shifted galaxies):

There are many types of Galaxies. Many of them are into blue shift. Some types like Starburst, AGNs, UV and Gamma ray can be a safe bet for blue shifted Galaxy candidates. Classifying the starburst / AGN category itself isn't easy since starburst galaxies don't represent a specific type in themselves. Blue shifted Galaxies can occur in disk galaxies, spherical in any other shapes. And especially in irregular galaxies which often exhibit knots of starburst, often spread throughout the irregular galaxy are possible Blue shifted Galaxies. Let's see various possible Blue shifted Galaxies below:

Blue compact galaxies (BCGs), Active galactic nucleus (AGN), Radio-quiet AGN, Seyfert galaxies, Radio-quiet quasars/QSOs, 'Quasar 2s', Radio-loud quasars, Radio-quiet quasars, 'Blazars' (BL Lac objects and OVV quasars), Radio galaxies, Blue compact dwarf galaxies (BCD galaxy), Pea galaxy (Pea galaxies), Luminous infrared galaxies (LIRGs), Ultra-luminous Infrared Galaxies (ULIRGs), and Hyperluminous Infrared galaxies (HLIRGs).

6.2. Evidences for AGNs and Quasars are blue shifted Galaxies--- Present day concept of Quasars

Quasars are among the most luminous, powerful and energetic objects known in the universe and can emit up to a thousand times the energy output of the Milky Way [1]. Quasars have all the same properties as active galaxies and AGNs, but are more powerful. The radiation emitted by quasars is across the spectrum, almost equally, from X-rays to the far-infrared with a peak in the ultraviolet-optical bands, with some quasars also being strong sources of radio emission and of gamma-rays. Additionally Quasars can be detected over the entire observable electromagnetic spectrum including radio, infrared, optical, ultraviolet, X-ray and even gamma rays. Their radiation is partially 'non-thermal' i.e., not due to a black body. In early optical images, quasars looked like single points of light (i.e., point sources), indistinguishable from stars, except for their peculiar spectra. With infrared telescopes and the Hubble Space Telescope, the "host galaxies" surrounding the quasars have been identified in some cases. These galaxies are normally too dim to be seen against the glare of the quasar, except with these special techniques. Most quasars cannot be seen with small telescopes, but 3C 273, with an average apparent magnitude of 12.9, is an exception. At a distance of 2.44 billion light-years, it is one of the most distant objects directly observable with amateur equipment. In Part 4, this quasar 3C 273 was shown to have a blue shift of (0.143122).

About 8% to 15% of Quasars have jets with lengths of millions of light years. These jets carry significant amounts of energy in the form of high-energy particle that move with speeds close to the speed of light consisting of either electrons and protons or electrons and positrons.

The Active Galactic Nuclei popularly known as AGNs and Quasars are Blue shifted Galaxies. Let us discuss about the quasars and AGNs in a next paper.

7. Conclusion

Hence we may conclude:

The actual ratio of Red shifted to Blue shifted Galaxies will depend on

- a. Universal Gravitational Force acting on each Galaxy at that instant of time,
- b. The position of the observer in the Universe
- c. The actual point mass distribution in the universe in three dimensions at that instant of time. This ratio can never be 50:50.

Dynamic Universe model is based on hard observed facts and gives many verifiable facts. In this paper the simulations predicted the existence of the large number of Blue shifted Galaxies, in an expanding universe, in 2004 itself. It was confirmed by Hubble Space

Telescope (HST) observations in the year 2009. This prediction process is clearly shown the output pictures formed from this Model from old and new simulations. These pictures depict the three dimensional orbit formations. An orbit formation means some Galaxies are coming near (Blue shifted) and some are going away (Red shifted). This paper goes on two main lines. First is the main line of thinking, to show mathematically that there will be lots and lots of blue shifted Galaxies. To support this concept the question what are the possible blue shifted Galaxies is answered further. We find that quasars are blue shifted galaxies. The second line of thinking goes with this finding, that the Quasars are blue shifted galaxies. Now it can be 32% of total Galaxies are blue shifted in this universe.

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[4] In fact there are millions of Blue shifted Galaxies not just 8300 found from 2009 by Hubble space telescope. Go to ADS search page try searching title and abstract with keywords "Blue shifted quasars". If you search with "and"s ie., 'Blue and Shifted and Galaxies" [use "and" option not with "or"option] you will find 248 papers in ADS search. I did not go through all of them. You can try this link...

http://adsabs.harvard.edu/cgi-bin/nph-abs_connect?db_key=AST&db_key=PRE&qform=AST&arxiv_sel=astro-ph&arxiv_sel=cond-mat&arxiv_sel=cs&arxiv_sel=gr-qc&arxiv_sel=hep-ex&arxiv_sel=hep-lat&arxiv_sel=hep-ph&arxiv_sel=hep-th&arxiv_sel=math&arxiv_sel=math-ph&arxiv_sel=nlin&arxiv_sel=nucl-ex&arxiv_sel=nucl-th&arxiv_sel=physics&arxiv_sel=quant-ph&arxiv_sel=q-bio&sim_query=YES&ned_query=YES&adsobj_query=YES&aut_logic=OR&obj_logic=OR&author=&object=&start_mon=&start_year=&end_mon=&end_year=&ttitle=AND&title=blue+shifted+quasars&txt_logic=AND&text=blue+shifted+quasars&nr_to_return=200&start_nr=1&jou_pick=ALL&ref_stems=&data_and=ALL&group_and=ALL&start_entry_day=&start_entry_mon=&start_entry_year=&end_entry_day=&end_entry_mon=&end_entry_year=&min_score=&sort=SCORE&data_type=SHORT&aut_syn=YES&ttitle_syn=YES&txt_syn=YES&aut_wt=1.0&obj_wt=1.0&ttitle_wt=0.3&txt_wt=3.0&aut_wgt=YES&obj_wgt=YES&ttitle_wgt=YES&txt_wgt=YES&ttitle_sco=YES&txt_sco=YES&version=1

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