SPIN-TOP MODEL VERSUS BIG BANG MODEL

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ABSTRACT

A new model, Spin-Top Model, has been proposed to explain the workings of the galaxies and the universe. This model explains many observed features of the galaxies, as well as those of the universe. It has been compared with the Big Bang Model, and it is shown that the Spin-Top Model explains the various observed features of the Universe, which cannot be explained by the Big Bang Model.

Keywords: Spin-Top Model, Big Bang Model, Universe, Galaxies, Models for Universe, Models for Galaxies.

INTRODUCTION

Up to the present time, the big Bang Model has been used to explain the workings of the universe. However, the Big Bang Model cannot explain most of the observed features of the universe, other than the primordial explosion. A new model, the Spin-Top Model, is being proposed to explain the birth and the workings of the galaxies and the universe. It is shown that the Spin-Top model explains the observed features of the universe better than the Big Bang Model.

Spin-Top Model of Galaxies

A Spin-Top Model of the galaxies and the universe has been proposed (Veziroglu, 2013). Prior to the birth of a galaxy, there is a spinning mass in the shape of an oblate ellipsoid at the center, which we call galaxy seed or g-seed (see Fig. 1). It should be noted that spinning fluid – because of the interplay between gravitational and rotational forces – takes the shape of an oblate ellipsoid, very close to a sphere with a slight bulge in equatorial region and flattened in polar regions. The g-seed consists of all the chemical elements from hydrogen up, and has increasing pressures and temperatures as one moves towards the center. When the pressures and temperatures are right – as a result of nuclear fission and fusion reactions – there will be a massive explosion creating a galactic soup of lighter nuclei, nuclear particles and subparticles (nuclei with mass numbers greater than 60 will take part in fission reactions, and those with mass numbers less than 60 will take part in fusion reactions). Their velocities will have radial components, angular components and relatively smaller axial components. The axial components will be upward if the particle in question comes out of the upper part (i.e., above the galaxy plane) of the g-seed, and will be downward if the particle in question comes from the lower part (i.e., below the galaxy plane) of the g-seed. This spinning soup, which is moving outwardly, starts to coalesce forming the galaxy spirals, just like rotating humid air coalesces into hurricane spirals (Fig. 2). Within the spirals, as a result of gravitational effects, the hydrogen gas and helium will coalesce to form stars (as well as hydrogen/helium planets), which in turn will generate all the elements to form "rocky" planets, moons and the star systems (or the solar systems), as well as meteors, asteroids and other heavenly bodies.

It should be noted that, because of the angular velocity effects, as one moves out in radial directions, the spins (or rotations) of the heavenly bodies and systems will be in the opposite direction to that of the galaxy. Also, the spin complies with the principle of symmetry, since a left-handed spin as viewed from the top becomes right-handed if viewed from below.

Eventually, the outward motion of the heavenly bodies within the galaxy spirals (i.e., star systems, other heavenly bodies and gas clouds) will slow down because of the gravitational forces pulling them towards the galaxy center, and the radial velocity components will reverse together with the axial velocity components, and they will start moving towards the galaxy center. Note that all the time, the outermost envelope of the galaxy will be an oblate ellipsoid because of the velocities imparted to them at the time of the g-seed explosion. Then, the heavenly systems and bodies will start their travels towards the center of the galaxy, and begin reforming the g-seed. It will consist of space occupants (made up of stars, planets, other heavenly bodies and gases) on the outside surface. As one moves to the center of the g-seed, densities, pressures and temperatures will rise, and as a result molecules will be crushed into atoms, and atoms will be crushed into nuclei. When the pressures and temperatures in the center of the g-seed reaches the critical values, a new explosion will ensue. Note that – when the g-seed explodes – some of the heavenly systems and bodies might still be in the process of returning towards the galaxy center. Fig. 3 presents the galaxy life cycle.

The above described galaxy life cycle will be repeated for eons to come.

Spin-Top Model of Universe

In the case of the universe, initially there is a huge spinning mass, as an oblate ellipsoid, which we shall call universe seed or u-seed (see Fig. 4). It essentially consists of neutrons, protons and electrons. When the pressures and temperatures are right – as a result of thermonuclear reactions – there will be an extra massive explosion creating the universe soup of various nuclear particles and subparticles, which quickly join to form mostly hydrogen atoms, as well as some helium atoms. The matter in this soup will have velocities imparted by the spinning u-seed and the explosion. These velocities will have radial components, angular components and relatively smaller axial components. The axial components will be upward if the particle in question comes out of the upper part (i.e., above the universe plane) of the u-seed, and will be downward if the particle in question comes from the lower part (i.e., below the universe plane) of the u-seed. This spinning soup, which is moving outwardly, will start to coalesce, forming the universe spirals. As a result of interplay between the spinning imparted from the u-seed and shear forces, the matter within the spirals will divide into cells. The cells will spin, as well as move around each other. Within the cells, as a result of gravitational effects, the matter will coalesce to form galaxies. Consequently, some smaller galaxies will orbit bigger ones, just like planets orbiting the sun. It should be noted that, because of the angular velocity effects, the spins (or rotations) of the galaxies will generally be in opposite direction to that of the universe. As described earlier, within the galaxies stars and hydrogen/helium planets will form. In turn, stars will generate all the elements to form "rocky" planets, moons and the star systems (or the solar systems), as well as meteors, asteroids and other heavenly bodies.

Eventually, the outward motions of heavenly bodies within the universe spirals (i.e., galaxies, all the heavenly bodies and gas clouds) will slow down because of the gravitational forces pulling them towards the universe center, and the radial velocity components will reverse together with the axial velocity components, and they will start moving towards the universe center. Note that all the time the outermost envelope of the universe will be an oblate ellipsoid because of the velocities imparted to them at the time of the u-speed explosion. Then, the galaxies will start their travels towards the center of the universe, and begin reforming the u-seed. It will consist of space occupants (made up of stars, planets, other heavenly bodies and gases) on the outside surface. As one moves to the center of the u-seed, densities, pressures and temperatures will rise, and as a result molecules will be crushed into atoms, and atoms will be crushed into neutrons, protons and electrons. When the pressures and temperatures in the center of the u-seed reaches the critical values, a new huge explosion will ensue. Note that some of the galaxies might still be returning towards the universe center. Fig. 5 presents the life cycle of the Universe.

The above described universe life cycle will be repeated for eons to come.

Comparison between Spin-Top Model and Big Bang Model

Big Bang Model cannot explain many of the observed features of the universe and/or galaxies, while the Spin-Top Model can. They will now be considered herebelow:

- **Rotary Motions:** The universe and galaxies are full of rotary motions. Stars, planets and other heavenly bodies spin around themselves. They orbit their more massive siblings and/or stars. Each galaxy is rotating, and some smaller galaxies rotate around larger ones (Dickinson, 2012). Big Bang Model cannot explain all these spins, rotations and orbital motions. Spin-Top Model elegantly presents the origin of all such motions. Such motions also add directional stability to the heavenly bodies and the organizations they form.
- **Collision of Galaxies:** In Big Bang Model, all the matter fly away from each other. Consequently, if for any reason some galaxies are generated (which could not happen without the spinning/rotating motions), they would fly away from each other; they could not collide. In Spin-Top Model, while some galaxies formed earlier would be retuning towards the galaxy center, other galaxies formed later would be moving towards the outer edges of the galaxy. In other words, they would be moving in opposite directions, with possibilities of collisions (Fig. 6). Of course, the universe has many examples of maimed galaxies resulting from collisions.
- **Galaxies with Satellites:** Big Bang Model predicts galaxies flying away from each other. However, observations show that some large galaxies, such as Milky Way and Andromeda, have satellite galaxies (Ibata et al., 2013; Tully, 2013). Also, most of the orbits of the satellites are on the same plane as that of the focal galaxy. These are all predicted by the Spin-Top Model (Fig. 7).
- **Directions of Galaxy spins:** Observations show that there are more galaxies with the left-handed spins than the right-handed spins (Ananthaswamy, 2012). Big Bang Model cannot explain this. In the Spin-Top Model this means that - as observed from our vantage point – the universe has a right-handed spin, and therefore most of the galaxies have left-handed spin. It should be noted that, to an observer at a radially opposite vantage point to ours, the universe's spin would look a left-handed spin, thus inviolating the principle of symmetry.
- **Walls of Galaxies:** Big Bang Model predicts a homogenous universe. However, Hobble telescope observed several regions of the universe with "walls of galaxies" with large empty spaces between them. No doubt they are the spirals of the universe as predicted by the Spin-Top Model.

- **The Universe's Shape:** Big Bang Model predicts a spherical universe. However, observations indicate that the universe is flat (Shape of the Universe, 2013). The Spin-Top Model predicts a flat universe in the shape of an oblate ellipsoid.
- **The Primordial Explosion**: Big bang Model assumes a primordial explosion of immense strength, spewing out the building blocks of the universe. It does not explain the source and/or cause of the explosion. On the other hand, the Spin-Top Model postulates that there was a primordial mass (u-seed) consisting of neutrons, protons and electrons. As a result of thermonuclear reactions, u-seed explodes spewing out all the building blocks of the universe.

Because of the foregoing, it becomes evident that the Spin-Top Model explains the observed features of the universe better than the Big Bang Model. In addition, it explains the observed features of the galaxies.

CONCLUSION

A new model, the Spin-Top Model, is being proposed to explain the birth and the workings of the galaxies and the universe. It is has been shown that the proposed model explains the observed features of the universe better than the big Bang Model. It also explains the observed features of the galaxies.

The Spin-Top Model shows that the spin is a fundamental property of the universe, just as it is a fundamental property of the particles constituting the universe. The new theoretical studies on the creation of the universe must take into account the consideration of the universe's spin, including the spin forces, momentum and energy.

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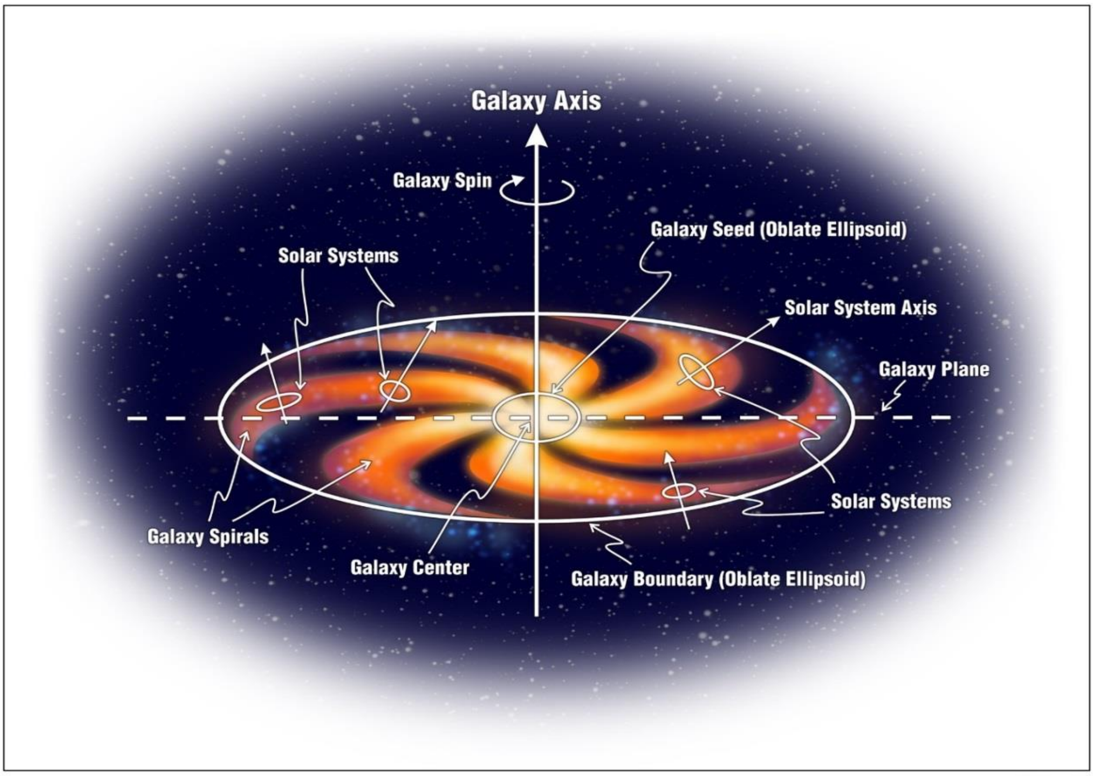

Galaxy Axis
Galaxy Spin
Galaxy Seed (Oblate Ellipsoid)
Solar Systems
Solar System Axis
Galaxy Plane
Solar Systems
Galaxy Spirals
Galaxy Center
Galaxy Boundary (Oblate Ellipsoid)

Fig. 1

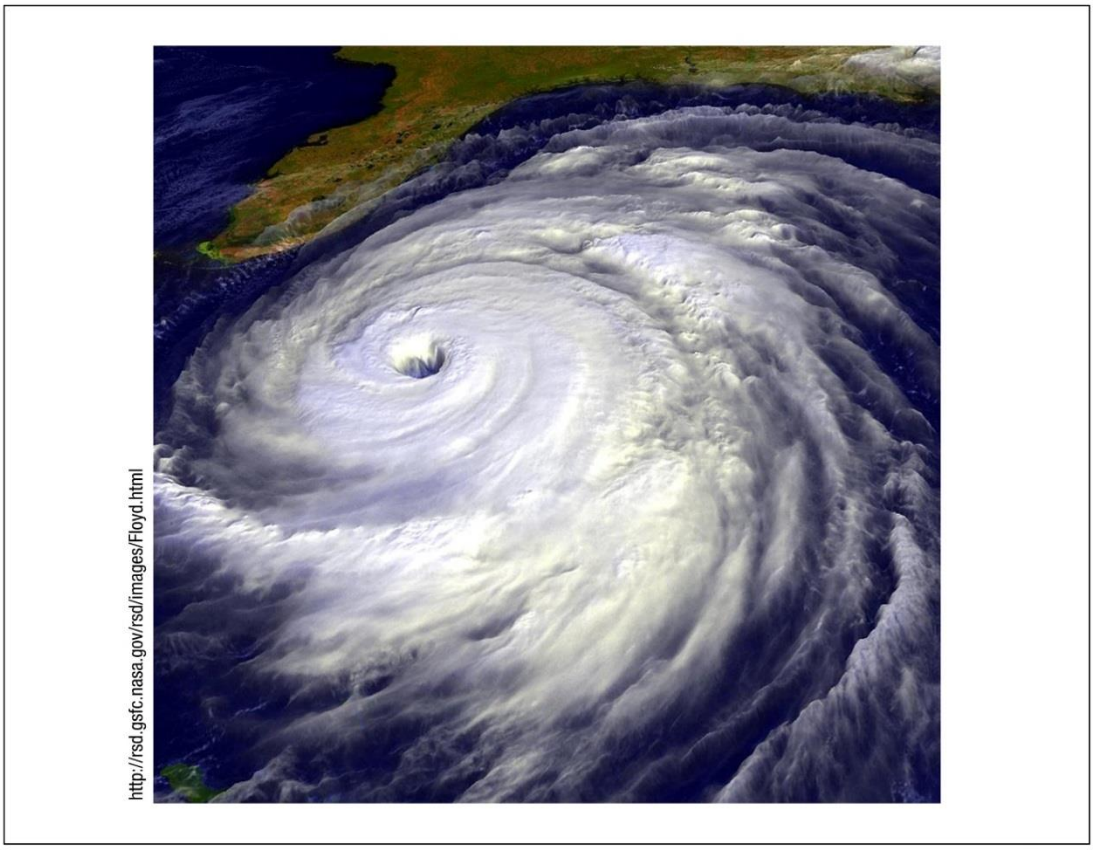

http://rsd.gsfc.nasa.gov/rsd/images/Floyd.html

Fig. 2

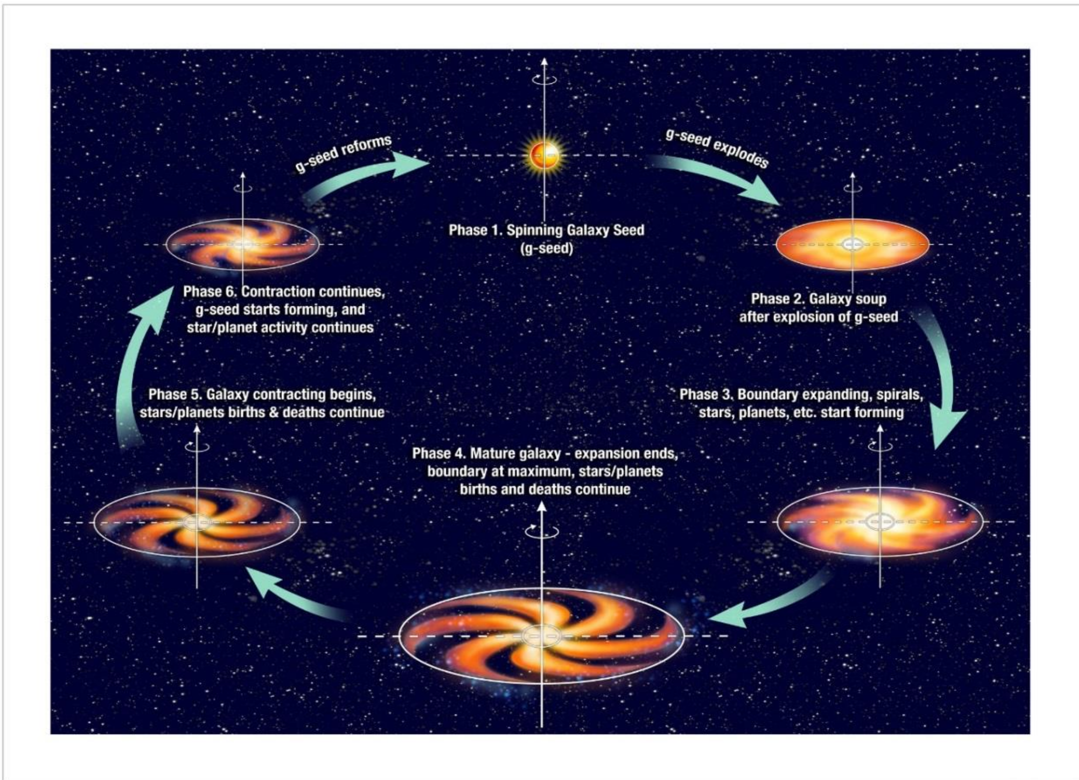
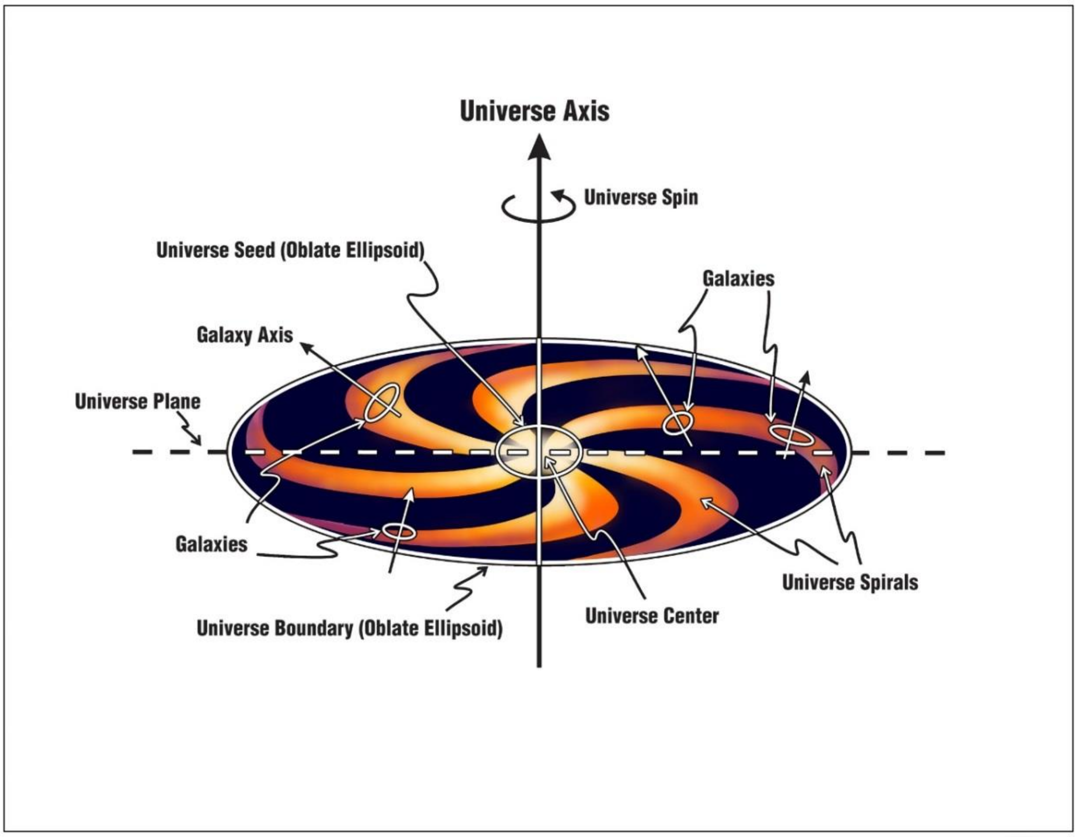

g-seed reforms
g-seed explodes
Phase 1. Spinning Galaxy Seed (g-seed)
Phase 2. Galaxy soup after explosion of g-seed
Phase 3. Boundary expanding, spirals, stars, planets, etc. start forming
Phase 4. Mature galaxy - expansion ends, boundary at maximum, stars/planets births and deaths continue
Phase 5. Galaxy contracting begins, stars/planets births & deaths continue
Phase 6. Contraction continues, g-seed starts forming, and star/planet activity continues

Fig. 3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Universe Spin
Universe Seed (Oblate Ellipsoid)
Galaxies
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Galaxies
Universe Spirals
Universe Center
Universe Boundary (Oblate Ellipsoid)

Fig. 4

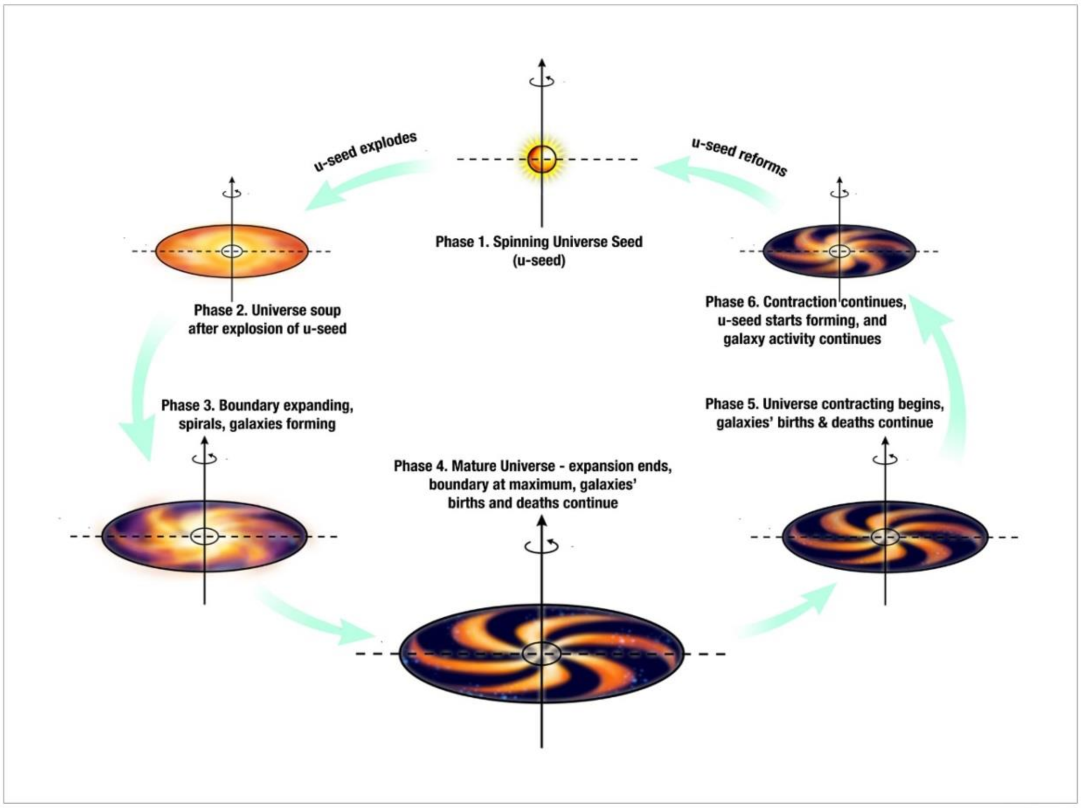
u-seed explodes
u-seed reforms
Phase 1. Spinning Universe Seed (u-seed)
Phase 2. Universe soup after explosion of u-seed
Phase 3. Boundary expanding, spirals, galaxies forming
Phase 4. Mature Universe - expansion ends, boundary at maximum, galaxies' births and deaths continue
Phase 5. Universe contracting begins, galaxies' births & deaths continue
Phase 6. Contraction continues, u-seed starts forming, and galaxy activity continues

Fig. 5


Gemini Observatory, GMOS-South, NSF

Fig. 6

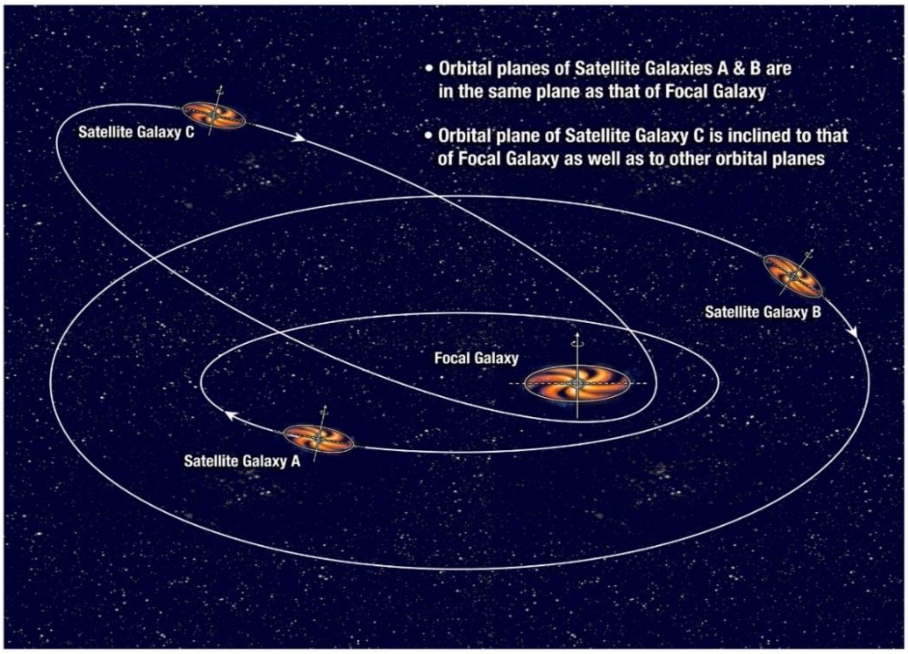

Fig. 7

Spin-Top Model versus Big Bang Model
Figure Titles

Figure	Title
Fig. 1	Spin-Top Model of a Galaxy.
Fig. 2	A hurricane, demonstrating that rotating fluids break down into spirals.
Fig. 3	Life Cycle of a Galaxy.
Fig. 4	Spin-Top Model of the Universe.
Fig. 5	Life Cycle of the Universe.
Fig. 6	Colliding galaxies.
Fig. 7	A galaxy with satellites.