

# CHAPTER-21

## GALAXIES

### Highlights about the chapter GALAXIES in MATERIALISTIC UNIVERSE by Ramesh Varma.

**Note:** Chapter over GALAXIES is not an encyclopedia. Challenger has illustrated only which relates to the new or contrary findings/understandings with some existing references to make the subject understandable.

● Understanding of the mechanism which develops and results for the function of galactic-bar in a galaxy would disapprove existing knowledge of the World and would put an approval stamp over the discovery/understanding of the Challenger about the function of solar-system.



**Illustration in this chapter has the answers of the following queries:**

- Why galaxies spin? (or what spins the galaxies?)
- Why most galaxies have spiral formation?
- Why most galaxies have arranged in a thin disc?
- Why some galaxies form galactic-bar?
- Why dust and gases surrounds the Galactic-bar?
- What results to form the spiral arm/tail?
- What galaxies contain other than the visible matter which has been falsely understood by the Physicists/Astronomers as Dark-matter?
- Black-hole and speculated blazar forming a jet of escaping particles, gases and energy-rays from the centre of galaxy (galactic-bar).

**Note:** V.V. Important observation that an active galaxy (or young galaxy) have black-hole at its centre or have some thing else, which results to form jet of particles, gases and energy-rays?  
(Explanation is not under this chapter of galaxy but it is under chapter 'Black-hole'.)

# CHAPTER - 21

## GALAXIES

**1. Galaxies:** Astronomy media in its information has amalgamated true photographs/images of the galaxies and other objects with the computer animated and computer-modified images. At most references, Experts/Astronomers never make clear in information that the printed image is true or computer animated/modified thus making a sense with most readers to understand it perfectly-true pictured, whereas in reality at most cases it is not so as falsely understood by the readers.

Below reproduced message taken from Internet encyclopedia makes clear that the World is yet far-far away to understand formation and working mechanism of the Galaxies, though by showing pictures taken by the telescope they (Experts) are creating their influence over the masses that they know a great about the galaxies.

### Internet encyclopedia: May 2009

.....While we have learned a great deal about ours and other galaxies, the most fundamental questions about formation and evolution remain only tentatively answered.....

The World is far-far away from the fundamental questions about formation and evolution of galaxies because the Experts/Astronomers have not yet correctly understood the basics of Astronomy. By understanding true basics, some queries have been answered by the Challenger as stated below:

- Why galaxies spin? (or what spins the galaxies?)
- Why most galaxies have spiral formation?
- Why most galaxies have arranged in a thin disc?
- Why some galaxies form galactic-bar?
- Why dust and gases surrounds the Galactic-bar?
- What results to form the spiral arm/tail?
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**Note:** V.V. Important observation that an active galaxy (or young galaxy) have black-hole at its centre or have some thing else, which results to form jet of particles, gases and energy-rays? (Explanation is not under this chapter of galaxy but it is under chapter 'Black-hole'.)

In addition to answers of above said queries, much more have been observed and concluded. Set-up of the stars (SUNs) at the centre by forming galactic-bar with their intense materialistic rays disapproves World's understanding over the working mechanism of solar/planetary system and puts approval stamp over the Challenger's claimed discovery over unique property of light/rays.



## 2. Answers of some queries:

- (a) Why galaxies spin?
- (b) Why most galaxies have spiral formation?
- (c) Why most galaxies have arranged in a thin disc?



Galaxy

### WORLD:

World has a number of theories but none is true.

### CHALLENGER:

**Note:** Understanding of the galaxies is related to understanding of the stars at its centre and also stars nearby to the centre. Almost all concerned while reading under explanation by the Challenger would not brain-visualize star similar to our Sun (Sun too is a star but it has been given the name as Sun). Under general terms, all persons call some visible planets (Mercury, Venus, Mars, Jupiter and Saturn) too as stars, though they are nothing like stars. So to make the illustration over galaxy understandable, Challenger has called all and every star of the galaxy as SUN.

Queries over the galaxy are properly understandable only by understanding true working mechanism of solar/planetary system as illustrated under the relevant chapter(s) of 'MATERIALISTIC UNIVERSE'; but answers of above said queries in brief is as below:

### (a) Why galaxies spin?

Central/core-body (massive clubbed SUNs of the galaxy) spins by its materialistic rays. Rays from spinning bodies (SUNs) act as fine materialistic spokes of a moving wheel to push all the whole objects of the galaxy to orbit; resulting to spin the galaxy.

### What spins the galaxy?

Galaxies are orbiting in the Universe like planets orbit around the Sun but galaxies are orbiting around an imaginary dot (centre) of the Universe. This fact (to orbit around an imaginary dot) can be well understood only after understanding that how a galaxy spins.

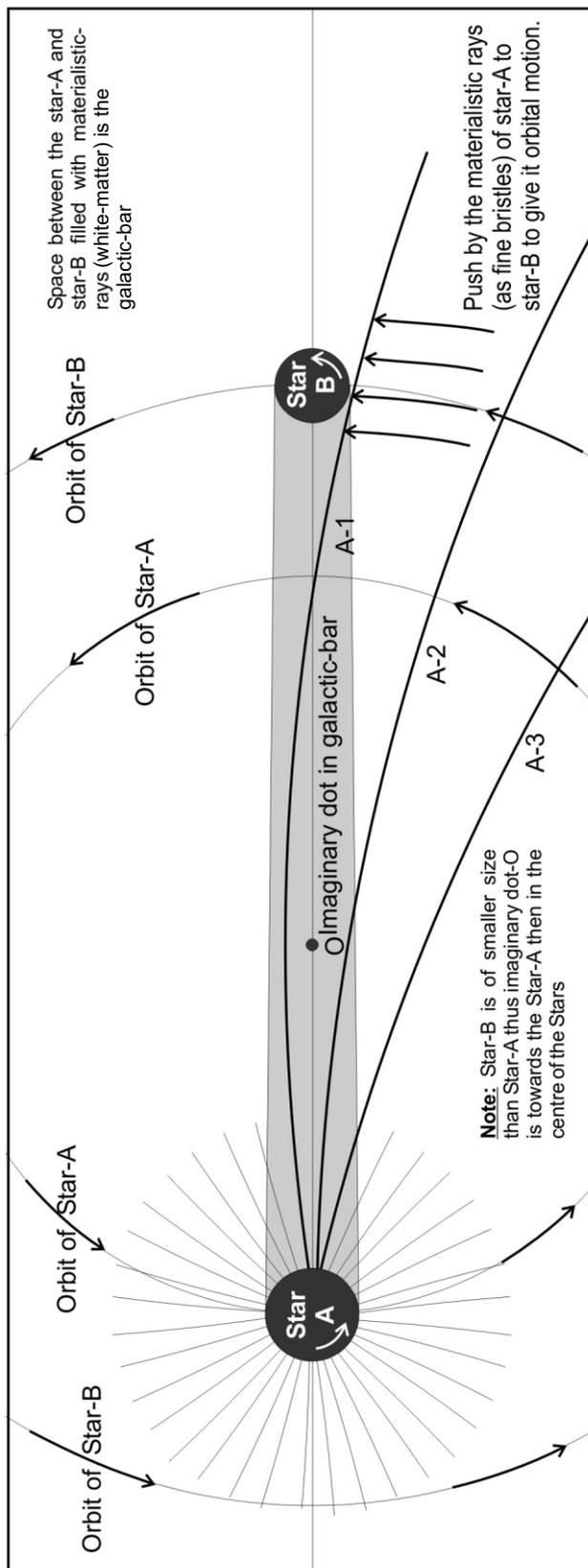
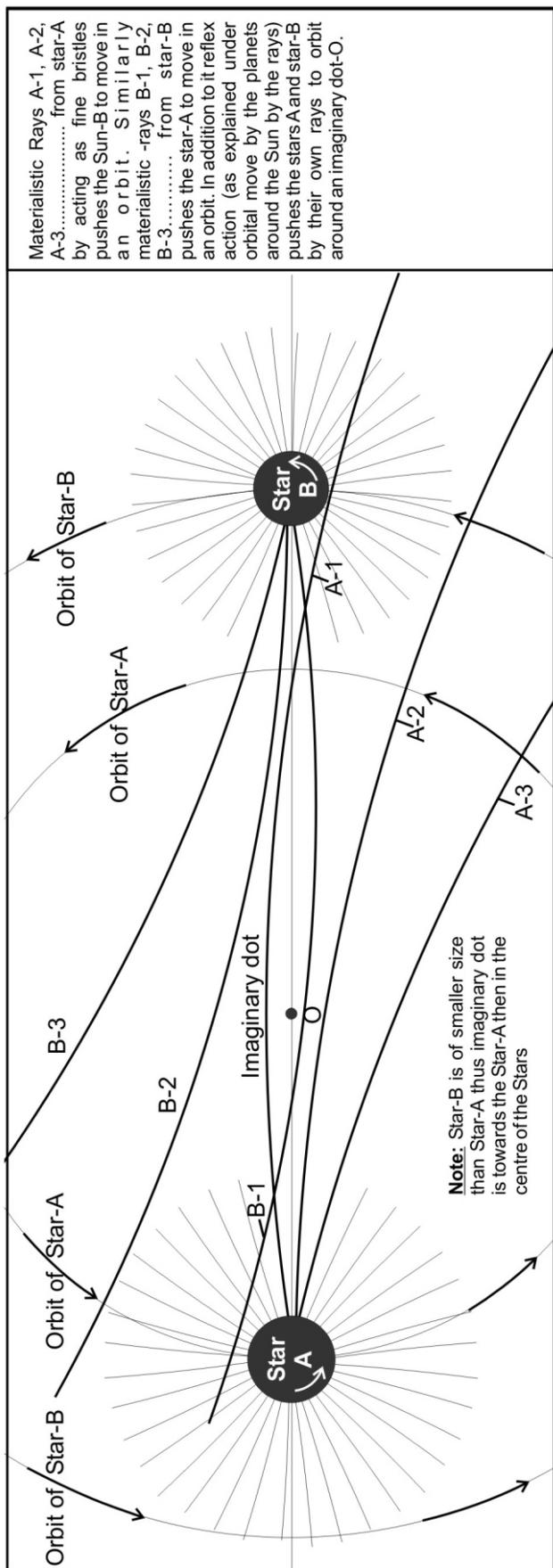
Galaxy does not get a spin by a single star but gets a spin by number (cluster) of stars or by a galactic bar consisting of some number of massive stars. Spin force (i.e., torque force) which spins the galaxy is by the materialistic rays of the stars.

To understand that how a number (cluster) of stars or a galactic bar of stars spins the galaxy; one has to understand that how a star/Sun spins by the materialistic rays. This has been discovered and illustrated under title: MATERIALISTIC UNIVERSE but in flash form as stated below.

Materialistic rays are composed of microest spherical particles, all closely touching each other. A materialistic-ray on its escape from a body puts back thrust pressure. This thrust pressure initiates spin. All the rays on their escape from the body give spin to the body. A ray on its escape, being materialistic does not adopt a straight path but forms a curve. A curved ray on emerging from the spinning Sun/star, being materialistic besides thrusting a body (planet) away along with centrifugal force also puts a push effect over the planet, which results in orbital move by the planet. Move by the planet in the orbit is because of the gravity and by the materialistic-rays (like fine bristles) coming out from a spinning body (Sun).

# Spin by the galaxy?

## Visualized Experiment:



Consider two massive stars (A and B) at the centre of galaxy or of a galactic-bar. For the star (A); star (B) is like its planet and for the star (B). Star (A) is like its planet. Materialistic curved rays (by acting as finest bristles) of star (A) force the star (B) to orbit around star (A) and Materialistic curved rays (by acting as finest bristles) of star (B) force the star (A) to orbit around star (B). With the result, both the stars (A and B) start orbiting around an imaginary dot situated in between stars (A and B) matter in the space occupied by the stars (A and B) and in between them is the galactic bar. This phenomenon results for the spin by the galactic-bar or by the cluster of stars around an imaginary dot. For rest of the matter of the galaxy, cluster of stars or stars of the galactic-bar are one mammoth clubbed star (A+B+.....). Rest of matter orbits or gets a move by the materialistic rays of said mammoth clubbed star (A+B+.....) like planets move (orbit) around the Sun by the materialistic rays of the spinning Sun/star.

Spin by the galactic-bar and by the galaxy can be further well understood after going through the explanation given ahead.

**(b) Why most galaxies have spiral formation?**

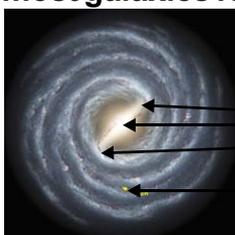
Central/core-body (massive clubbed SUNs of the galaxy) spins, thus rays emerging from it do not travel straight but form curve. Curved rays after travelling a long distance form a spiral path. Materialistic spiral rays act as guide-grills to keep the objects/bodies of the galaxy in between the rays thus the galaxy adopts spiral shape. Further, spiral shape of the galaxy is due to its bent arms (or can be understood as spiral tails) of the SUNs which are adjacent to the central SUNs (clubbed centre). Primary tail also forms branch(s) of tail(s). Explanation to this effect has been given ahead under query: What forms the spiral arm/tail?

**(c) Why most galaxies have arranged in a thin disc?**

Further rays emerging from the spinning central/core (SUNs) forms a mirror reflection image pattern over the equator plane of core-body (SUNs) which traps the objects/bodies in a flat plane. Further every descending SUN traps its family to flat zone thus galaxy is a flat disc with spiral arms of the matter. Explanation is similar to as given under the solar system.



**3. Why most galaxies form galactic-bar?**



Galactic-Bar  
Our Sun

Computer animated Milky Way (our galaxy)

**WORLD:**

World does not know the reason as per the information published

**World renowned Astronomy magazine, issue June, 2009**

**The Bar Scene**

Q: How do the bars in barred spirals form?

A: Galactic bars form when stars in circular orbits around a galaxy's center start to stretch out into more oval, or elliptical, trajectories. The stars then disturb the orbits of other stars, further reinforcing the bar. It remains unclear what triggers those first stars to shift into elliptical orbits.....

**CHALLENGER:**

Astronomers/Experts have not seen by any means our galaxy (Milky Way) that it has a Galactic-bar but Astronomers by observing some facts have hypothesized the presence of galactic-bar in the Milky Way. Answer given against a query in a renowned World magazine confirms that the World does not know yet the reason that what forms galactic-bar in some spiral galaxies. World also does not know some other facts about the galaxies because the Experts/Astronomers have not yet correctly understood the basics of Astronomy and light/rays.

**Answer: To arrive at the answer, some facts and 'practical in brain' need understanding and visualization:**

Shape of the galaxy and existence of Galactic-bar in the galaxy depends upon the prime factor i.e., its core/central SUN(s). A core/centre of the galaxy can be of one massive SUN, two massive SUNs, one massive SUN having two big SUNs opposite to it on either sides and so many other versions. Presence of any other nearby galaxy results to distort the shape of the galaxy.

- **Behavior of the SUNs with the SUNs in the central zone of galaxy because of their high magnitude materialistic rays: Note: (Sun and star, both are the same)**

Behavior of our Sun with the planets (objects) makes us understand solar/planetary system but to understand galaxy, behavior of the SUNs with the SUNs, needs understanding.

**(i) Behavior of the SUN with it self:**

A SUN cannot be too large and also too small; it has some limitations of its size (matter).

**Experiment in Brain:** Perform experiment in brain similar to which has been performed under explanation/answers to TEN-QUERIES related to solar/planetary system. Presume a SUN in the Universe. If its mass is kept on increasing; a stage would come when its gravity would not allow its light/rays to escape thus it would stop working as SUN. On further increasing of its mass, it would become a black hole to suck light/rays and other objects. So SUN has a limitation to become a big SUN.

If the size (mass) of SUN is kept on reducing, a stage would come when it would stop its nuclear reaction at its core (or over the shell in side it where reaction is taking place) thus it would not exist as a SUN. So SUN has a limitation on becoming a small SUN.

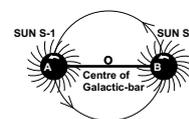
**How much biggest SUN a galaxy can have?**

Our Sun is an average sized star. The biggest stars are more than 100 times as massive as the Sun and the smallest stars are less than 1/10th as massive as the Sun. Central clubbed-stars of the galaxy can not be properly seen, because they have been encapsulated by great quantum of dust and gas which surrounds them. Thus Challenger has observed and concluded that central clubbed-stars (SUNs) of the galaxy which form galactic-bar must be the biggest possible, so might be more massive than mightiest (more than hundred times mightier than our Sun) understood by the World.

**(ii) Behavior of two SUNs with each other:**

**(a) Two adjacent SUNs of the same size and properties:**

Though no two identical SUNs can be near to each other in the Nature's set up, but to understand something this presumption is a must. Two SUNs (S-1 and S-2) of the same properties would orbit around an imaginary dot (O) and their orbital path (A-B) would be common.

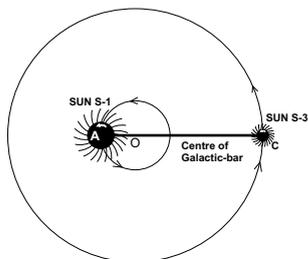


Both the SUNs would spin by their own rays and also by the rays of the other opponent SUN. Further both the SUNs would stay away from each other on account of repulsion by the rays and also by the factor (Semi-centrifugal force) by balancing with their gravity.

**(b) Two adjacent SUNs but of different sizes (mass):**

If one SUN is of bigger size than the other, both would orbit around each other in different orbits with central point (O) shifting towards the bigger SUN. On further reducing the size of SUN (S-3), centre point (O) would shift further closer to SUN (S-1).

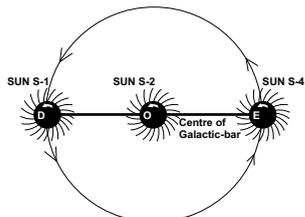
If the SUN (S-3) is of small size (mass) than SUN (S-1) it would go away from the SUN (S-1) because of thrust by the rays of the SUN (S-1) acting over SUN (S-3) by the factor (density, surface area, mass ratio) and also by the lower gravity pull between the two.



For the galaxy both set up of the SUNs 'S-1 and S-2' or 'S-1 and S-3' would behave as a Galactic-bar with spinning centre at (O).

**(c) Behavior of three SUNs among each other:**

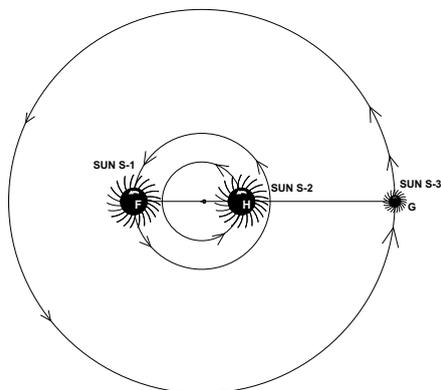
If three SUNs are of the same size/mass, they all would arrange in a line to act as a Galactic-bar of the Galaxy.



All the three SUNs (S-1, S-2 and S-4) would spin in a flat plane passing through their equator. S-2 would not orbit but S-1 and S-4 would orbit around S-2 over the same orbital path. All the three SUNs would form a Galactic-bar of the galaxy.

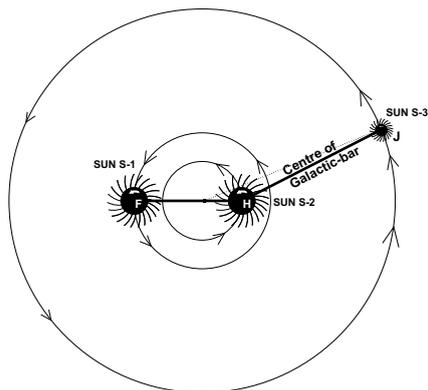
**(d) Three SUNs but one SUN of lesser size/mass:**

Now replace SUN (S-4) with the SUN (S-3) of smaller size/mass.

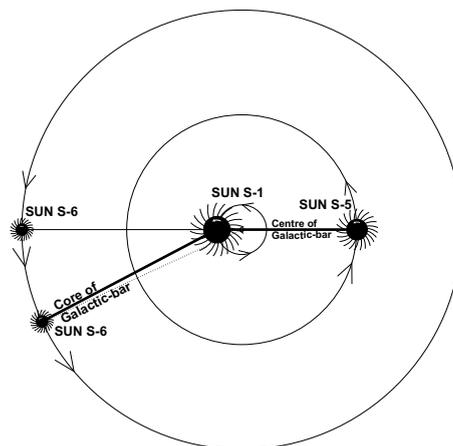


SUN (S-3) would go away because of smaller size. Spin point would be in between S-1 & S-2 but towards S-2.

Massive central SUN (S-2) would push small SUN (S-3) to orbit around it but the rays of massive SUN S-1 would not allow it to come near to it, so SUN (S-3) would stop permanently at some point over its orbit to form bent galactic-bar (FHJ) as shown below.

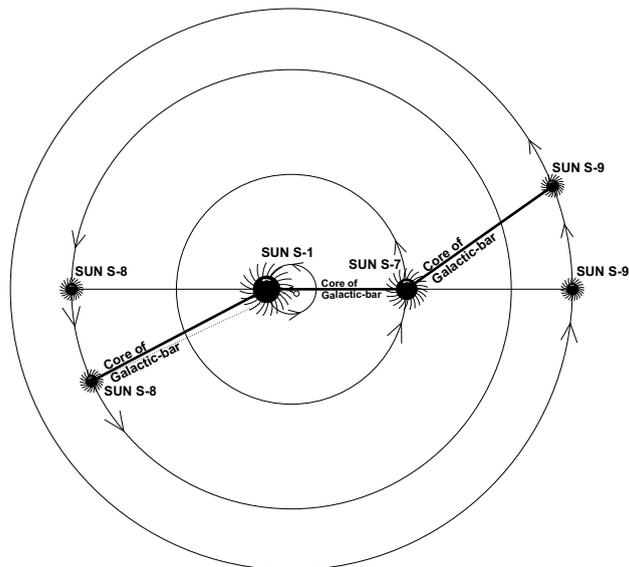


**(e) Three SUNs but all of variable size/mass:**



If three SUNs are of different sizes (masses); SUN which is the biggest would adopt central position and the rest of the two SUNs would be on its opposite sides. All three SUNs would orbit around an imaginary dot near to the central SUN. All three SUNs would not be in a straight line but would be forming an angle/bend due to greater push to orbit over SUN (S-6) than S-5 by the SUN (S-1). This slightly resultant bent line up of the SUNs would act as galactic-bar.

**(f) Behavior of four or more SUNs at the centre of galaxy, if all are of variable sizes (masses):**



Big central-clubbed SUNs (S-1, S-7, S-8 and S-9) would form galactic bar. SUNs S-8 and S-9 or more SUNs nearby (not shown) to them would form the end of the galactic bar to become the tail (arm) holding-point. In the absence of any other big SUN other than the four said, SUNs (S-8 and S-9) would be forming a long spiral tail of the SUNs (stars), each SUN in the tail would hold around it bodies (family) like our Sun has.



**4. Why dust and gases surrounds the Galactic-bar?**

World (Experts) have observed/analyzed (seen through telescope) that Galactic-bar is surrounded by dust and gases but World (Experts) are unaware from the fact that why so.

**Challenger:**

Galactic-bar consists of a number of SUNs i.e., numbering more than two; thus no object like planets/satellite/asteroid etc can orbit around the Galactic-bar (or any SUN of the Galactic-bar).

In solar system, planets, satellites, asteroid and other objects have been developed because of the fact that all were/are orbiting in the same direction and that too in a flat plane. Small objects, particles and dust on their move in said manner from pre-historical times were/are subject to under constant pressure (may be mild) to bond and to grow bigger and bigger as illustrated under MATERIALISTIC UNIVERSE. In the absence of this system no matter can unite to grow bigger and bigger. So around galactic-bar, no object can not develop from dust to grow bigger thus around galactic bar not bigger than the dust can exists.

Because of the said fact galactic-bar is surrounded by dust and gases. Dust and gases being lighter in their mass, so can not come near to high intensity rays of the SUNs of the Galactic-bar. Because of this fact dust and gases must be thousands and thousands Astronomical Units away from the core of the Galactic-bar. Great quantum of dust and gases which surrounds the Galactic-bar may have resulted dust and gas to come some what near the Galactic-bar and to compact them (dust and gas) to encapsulate Galactic-bar SUNs with the dust and gases.

Dense white-matter would be between the dust/gases and the SUNs forming a Galactic-bar.



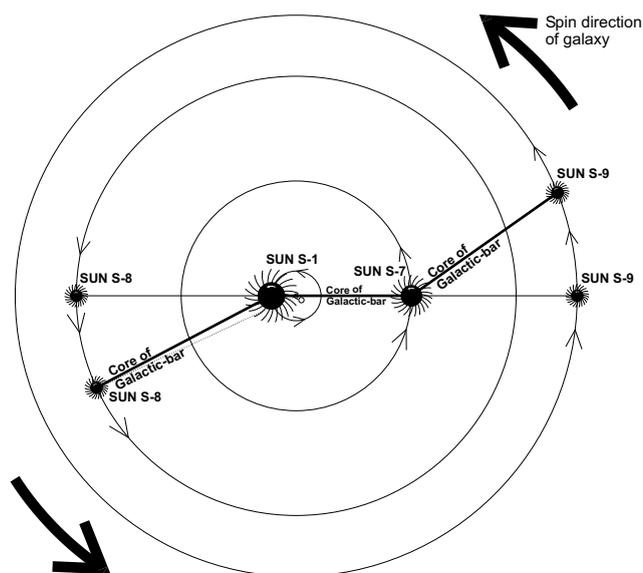
## 5. What results to form the spiral arm/tail?

### How space medium effects to form tail?

Experiment in brain or perform experiment practically:

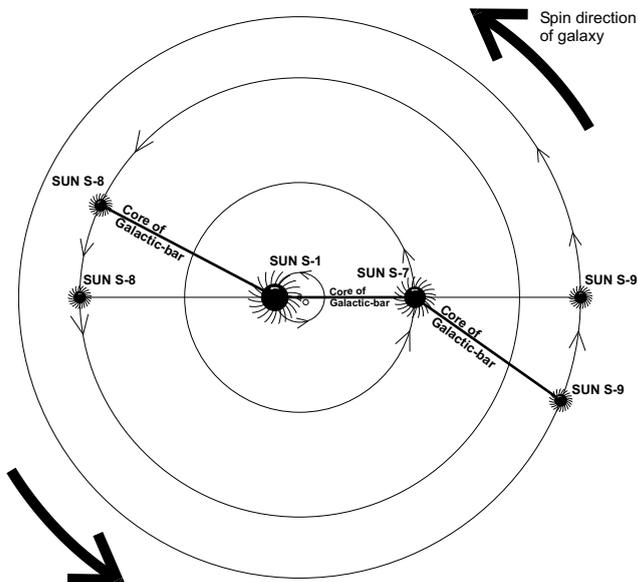
Take a rigid wooden bar, say one foot long. Attach on its both sides flexible light weight foam bars of say 2-3 feet long. Make the wooden bar rotate-able at its centre in a glass chamber. When the bar is rotated like galactic-bar of galaxy; foam bars would form a spiral tail like spiral tail of the galaxy. This all is due to the air in the chamber. If bar is rotated in perfect vacuum, foam bars would not form bend/spiral tail like it has formed in the medium of air. Similarly spiral tail of the galaxy is formed on rotation because of the medium (white-matter) in space besides materialistic curved/spiral rays acting as guide-grills to transform galaxy matter to spiral shape.

### Explanation that how is tail formed:

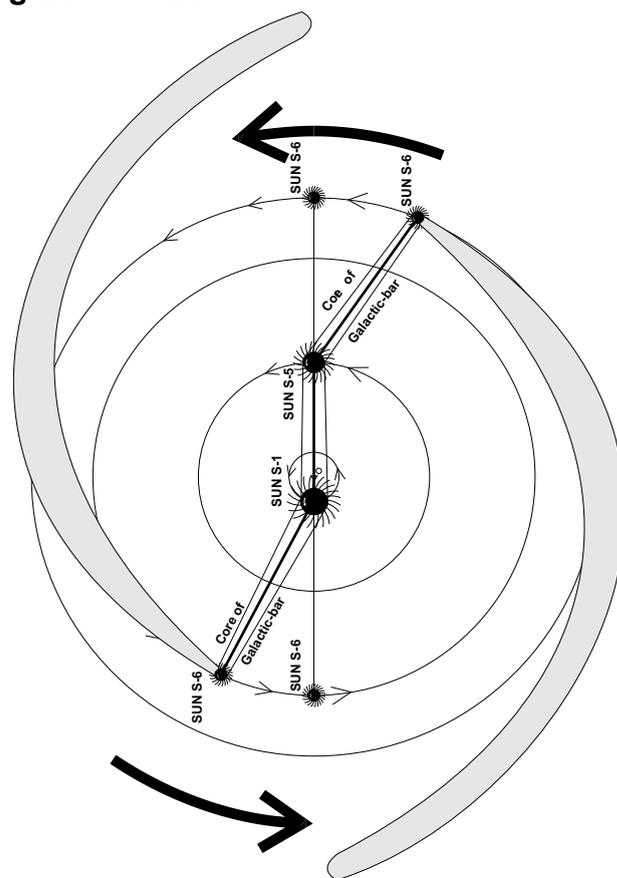


This position of the SUNs (stars) and Galactic-bar is under supposed situation when no matter/object surrounds this central-clubbing of the SUNs in a galaxy. If any matter/object(s) surrounds this galactic-bar, shape of this galactic-bar would get a change as per the effect of the matter/objects which surrounds it as shown below.

In above sketch smaller SUNs S-8 & S-9 than the massive centre SUNs have gone forward by the thrust of curved rays emerging from spinning SUNs S-1 & S-7 by acting as materialistic rays like spokes of moving wheel as illustrated under solar/planetary system. But in galaxy set-up, SUNs S-8 & S-9 have to drag their own long tails and that too in a medium (white matter) which poses resistance thus SUNs S-8 & S-9 would get displaced from this position to as shown below.



### Dragging of the tail by the side SUNs of the galactic-bar:



Tail of the SUNs S-8 & S-9 would adopt a spiral shape because of the two prime factors (Rays acting as guide-grills and Rays being materialistic thus posing resistance as medium).

In a galaxy, a number of SUNs (stars) are surrounding the central-clubbed SUNs. These clusters of SUNs (stars) have their own tails. Central-clubbed SUNs, cluster of SUNs near the central zone and their/spiral tails form the spinning-galaxy.



## 6. Function of the SUNs in the tails:

Our Sun is among such SUNs in the galaxy (Milky Way). Working of our Sun i.e., Solar-system is like working (activities) of flying insects in a coach of moving-train. While solar bodies are orbiting (spinning) around our Sun, galaxy also spins. Our Sun and its family keep on working (spinning/orbiting) unaware of the spin of galaxy as flying insects act (move here and there) in the coach unaware of the movement of train.

Every SUN (star) has been bonded with another by the gravity factor and thrust of the rays; matter of the galaxy other than the SUNs is also bonded with the SUNs by the same factors thus the whole system is compact in the form of galaxy.



## 7. Conclusion:

- Galaxy having **one massive SUN (star)** at its core would form simple spiral shape galaxy as stated above.
- Galaxy which has **two massive SUN (stars)** close to each other would form a clubbed core/centre. Both massive SUNs would orbit (around an imaginary dot) because of the push by the rays from spinning SUNs acting as curved spokes of a moving wheel. Both the SUNs would have orbital motion due to the push of the rays and also by the reflex force on each other as stated and illustrated under the relevant chapters related to the planets (solar system). Both the SUNs would form spiral arms of the objects and the shape of galaxy would be as per the computing result of thrust by the rays and gravity factor. Clubbing of two massive SUNs at the centre would work as a galactic bar.
- Galaxy which has core of **three massive SUNs (stars)** forms a proper Galactic-bar.

Three **massive** SUNs can not be of the same size and would not be far away spotted in a galaxy because of their high gravity magnitude. All the three **massive** SUNs would be as close to each other as possible by their rays' repulsion and pull of the gravity. Biggest SUN among the three would take central position and rest of the two would be on either sides. Side-SUNs can not orbit around the central SUN like planets orbit around our Sun, because side-SUNs are emitting powerful rays which do not allow them to over take the other in an attempt to move in orbit (thus restricting any orbital speed).

Formation of three giant SUNs in a line results to form the Galactic-bar. No body/object other than the SUNs could also orbit around the side SUNs; orbiting of any object/body around any side-SUNs is restricted by the rays of central massive SUN. No object/body can also orbit around the central massive SUN too because of the repulsion by the rays of side big SUNs. So bodies/objects in the galaxy would form arms with both the side-stars. Central massive SUN is almost free to spin but side SUNs forming arm/tail are facing some resistance to its spin because of the greater gravity factor of armed bodies (tail). SUNs are not solid bodies so they (SUNs) get stretched to develop elliptical bodies like tide (bulge) over the ocean by the Moon. Even in elliptical shape mass of these side SUNs must be spinning but with slower speed by retaining elliptical shape due to non-solid (fluids/gases) mass. These three lined-up some what elliptical massive SUNs accumulate gases and dust around them to form a bar i.e., Galactic-bar. This bar rotates along with all the matter of the Galaxy.

- Galactic-bar may have two or three SUNs but if the number of SUNs increases in the clubbed centre/core, end SUNs would form a curve/bend to serve the purpose of tail start-point than acting as galactic-bar.

However, clubbing of one galaxy with another would result to distort/form any shape.

### Extract:

Spiral shape of the galaxy; galaxy in the form of thin disc and formation of Galactic-bar in the galaxy is due to the effect of **materialistic light/rays** which act to transform galaxy mass as stated above and illustrated under the relevant chapter(s) in MATERIALISTIC UNIVERSE.



## 8. What galaxies contain other than the visible matter which has been falsely understood by the Physicists/Astronomers as Dark-matter?

Density/concentration of white-matter in a galaxy is to its extreme over the massive SUNs which are forming galactic-bar. Mass of this dense white-matter from the surface of the massive SUNs to the dust/gases which surround it (galactic-bar) may form 25% of the total mass of the galaxy and 50% mass of the total galaxy may be with the white-matter which is existing in the galaxy as space. Physicists/Astronomers have falsely speculated this white-matter as dark-matter.



## 9. Black-hole and speculated blazar forming a jet of escaping particles, gases and energy-rays from the centre of galaxy (galactic-bar).

**Note:** V.V. Important observation that an active galaxy (or young galaxy) have a black-hole at its centre but the Challenger has observed and concluded that a collapsing galaxy have the black-hole but an active galaxy (or young galaxy) at its centre have some thing else, which results to form jet of particles, gases and energy-rays? (Explanation is not under this chapter of galaxy but it is under chapter 'Black-hole'.)

