

1. At the center of a galactic a black hole (B.H.) or two of them or sometimes three or more black holes are located with a total mass of the same order as the total mass of all the stars, planets, dust and gas in the galaxy.

(Clarification: "the same order" means that the difference to the one side or another can be tenths or hundreds times but very like not millions times or more. It is very likely to suppose that the mass of the central H.D.s is greater then the entire mass of the other matter in the galactic like the our Sun mass is much greater then the mass of all other planets in the Sun system).

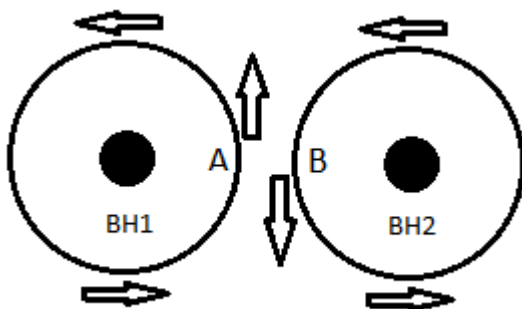
2. In case when the central B.H.s count is greater then one, these form a relatively compact mechanic system of bodies rotating around their center mass point with a period from several thousands to several hundreds of thousands years.

(For more specific the period of rotating massive black holes in the Milky way galaxy is probably about 50,000 years).

3. The system of B.H.s pointed above is moving in the same plane as the galaxy (so its ecliptic plane is matching the ecliptic plane of the entire galaxy). This is true at least in the most of cases.

4. Accretion disks around central black holes also are parallel to the galaxy plane and its rotation direction is the same as rotation direction of the most matter in the galaxy.

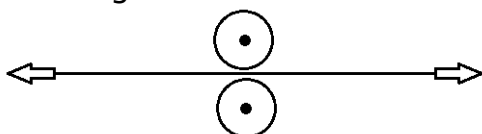
By increasing the black holes masses at the center of a galaxy theses are approximated and its accretion disks become interact.



On the figure two interacting accretion disks of the black holes BH1 and BH2 are represented conventionally.

5. In points A and B the matter moves in two different directions. If to account that the matter is moving at near-relativistic speed in the accretion disks, then it becomes clear that all the matter colliding there is transformed into the electromagnetic radiation (such as light, gamma rays. short and radio waves)*, further spreading (mainly) in two opposite directions (perpendicular to the AB section and laying in the galaxy plane).

* Below we will call all of such electromagnetic radiation components as "light". Especially because we as observers see mainly the light.



On the figure a two-directional ray is shown formed in result of interacting of two accretion disks of black holes.

6. Since the central system of black holes is rotating (in the same plane that the galaxy main plane), the ray (emitted by the accretion disks interacted) direction is changed.

As the result we can view a double Archimedian spiral:

In each point of this spiral the light is moving from the center of the galaxy to its bounds. The final spiral is not rotating, it is just expanding. But for us this occur very slow and for a hundred years of the observing astronomy exists we can not discovery any sufficient changes.



7. The main sentence (or Postulate). The most part of the light radiated by a galaxy (*) is formed not by its stars located in its spiral arm but by the central area of the galaxy as a result of interacting of two or more accretion disks.

(*) This is true not only for spiral galaxies. It is probably also correct for elliptic galaxies that the main light source of the light of the galaxy is the accretion disk of the central super-massive black hole. The only difference is that the light is spreading more uniformly in all directions in the galaxy plane.

8. All the variety of forms of spiral galaxies can be explained by changing configurations of black holes in the center of a galaxy, which is sufficiently fast by comparison to a lifetime of the galaxy itself and its components (stars, clusters, dust and gas clouds etc.)

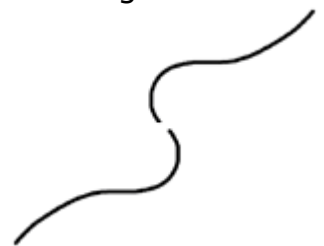
The reason of the black holes systems evolution in the center of a galaxy is its continuous increasing its masses in result of absorbing a material falling onto them and its following approximation and merging.

Then in the accretion disk of the (now single) super-massive black hole another black hole can be condensed (again) and its accretion disks interaction can form light rays power enough to form new spiral arms in space.

8A. The transition from a system of two central bodies to a single black hole in the center of a galaxy in result of their collision and merging leads to changing of the configuration - i.e. to switching from a spiral galaxy to an elliptic one. But though for the central area of the galaxy the process is short in time, the light that already was emitted earlier still continues moving through the galaxy's gas and dust still continuing forming rests of spiral arms. Though the central area of the galaxy already is looking for us as an elliptic galaxy.



8B. The contrary process, in case of a progressive approximating two black holes moving almost straightforward and then starting to rotate around its common center of masses, can be looking as follows:



9. It is probably that a reason exists that makes forming one more black hole near already existing two black holes impossible and as a result we can see that the most of spiral galaxies are just simple double spirals.

For example this can be a high gravity of two near black holes or a direct impact of the ray of light leading to a turbulence in the accretion disk.

In result, systems of three or more black holes, e.g. can be formed only in rare cases when additional black holes are condensed or approached simultaneously. Therefore it is yet possible to find examples of galaxies with several pairs of spiral arms.

10. Theorem. About a fatal influence of a light emitted from the center of a galaxy.

The power of a light emitted from the center of a galaxy condensed into two very thin rays is so strong that all the objects * affected by it are going out of the comfort state or in other words switched to a catastrophic situation.

Consequence. In the galaxy Milky Way with a period about 30,000 - 50,000 years each object * located in the galaxy plane is experienced a catastrophe event.

* Objects here are star systems, planets, biospheres.

11. The lemma. Objects having significant inclination relatively to the galaxy plane of its orbit around the galaxy center on the most duration of its trajectory over galaxy are spared from catastrophic hits of light beams (though periodic influence leading e.g. to a climate warming still are possible).

In part, the Sun system of the Earth (SSE) has very large enough inclination of its orbit in the Milky Way galaxy. Moreover in our time its position is in the most far distance from the galaxy plane so we are less vulnerable to that lighting catastrophe events (certainly if there were no sudden reconfigurations of black hole systems in the center of our galaxy).

Therefore it is necessary not to underestimate the probability of consequences of a light beam arrival even to the neighbor areas even distant enough from us. Especially taking into account that the known history of the mankind on our planet is about of 40,000 years by some estimations which is suspiciously very close to the possible period of light arrivals from the galaxy center.

12. If to remember the Fermi paradox. Another additional filter can be added here: the system with good enough planets must have enough orbit inclination to allow to its life to exists for a long time period without catastrophes. So organisms could evolution to more advanced forms and then to hide elsewhere until next disasters were finished.

On our planet with a period of rotating of the SSE around the center of the galaxy about 220 million years, such relaxing period has length about 100 million years (and about of 50 million years are rest to finish it). After that, our far descendants should eight hide deep under the ground/water or hitch hike to another star system with good enough orbit inclination just leaving its zone of disasters and migrating to the comfort area.

The note. The period 50,000 years was selected by the author of the article on base of the known reconstruction of the Milky Way's spiral arms structure and distances between its arms and the are near to the supposed Sun system disposition on it.

The note 2. In this article special configurations like Seyfert's galaxies, or galaxies with warped arms or forking arms and other similar were not considered specifically but in most cases these are just results of re-configuring central systems of black holes in the center of a galaxy.

The note 3. Unfortunately I have no comments about measuring speed of matter of galaxies on different distances from their centers (showing that these are rotating as "solid bodies").