Hollow Moons, Planets, Stars and Black holes (Galaxies)

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Abstract

This short article addresses a hypothesis related to gravity and its impact on the status of the core of moons, planets, stars and black holes (galaxies). It may contribute in generating thoughts and mathematical models for better understanding gravity.

Keywords: gravity; gravitational; Galaxies; Dark matter; force

Introduction

Gravity is a force generated by any object with a mass, it can be exerted from any direction. In case of a spherical object, gravity is exerted from the surface of the object toward the centre, from the centre toward the surface, between faced parts on both sides of the centre, and along the perimeter. The gravity forces directed from the surface toward the centre and along the perimeter will maintain the spherical shape. The gravity force directed from the centre toward the surface will contribute in creating a hollow core which can be in any shape depends on the circumstances/forces surrounding the object (Figure 1, a). The gravity force directed from the centre toward the surface will be greater than that directed from the surface toward the centre due to the difference in surface area. In the case of a spherical object being cut into slices of trapezoid shapes, then each side of this shape will exert gravity force. And, faced trapezoids across the hollow space at the centre will exert higher gravitational force toward each other (attached) than the rest of the object. The mass of each trapezoid exerts same gravitational force over its surfaces, this force will be greater when it is distributed over a smaller surface area (iner surface of the trapezoid). This also lead to higher density and mass [2] in the inner side than the outer side. Faced trapezoids at the centre will exert gravitational force toward each other over small surface area.

As temperature, inside most of these objects are high and the contents were in liquid state at some stages, the gravity force directed from the centre toward the surface with additional gravitational forces will create a hollow core. Additional

gravitational forces such as the centripetal force due to spinning of the object around its centre in space [1] will add to the gravity force directed from the centre to the surface. In case the object is part of a solar system and has moons, the gravity of the moons, planets and stars in that solar system [3] will all contribute in creating the hollow core, all these gravitational forces are at the same direction of the gravitational force from the core to the surface. Moreover, the high-pressure gases produced by the melted lava [4] will occupy the centre of the object due to spinning around its centre [1, 5] and will further contribute in creating the hollow core. The hollow core concept is applied to moons, planets and stars.

In case of a black holes, the entire object will be in a shape of a cylindrical ring (doughnut shape) (Figure 1, b). The light is not able to go through this hollow object only at the centre. This concept is only applicable to objects with a mass greater than a critical value. The hollowness is due to the gravitational force exerted from the centre toward the surface. The ring shape is due to the high gravitational force from the surrounding object in the black hole system. Most of the black holes are surrounded by huge number of starts with high gravitational forces. Black holes are located at the centre of galaxies and these galaxies are in a disk shape and so the black hole will have a disk shape with a hollow core.
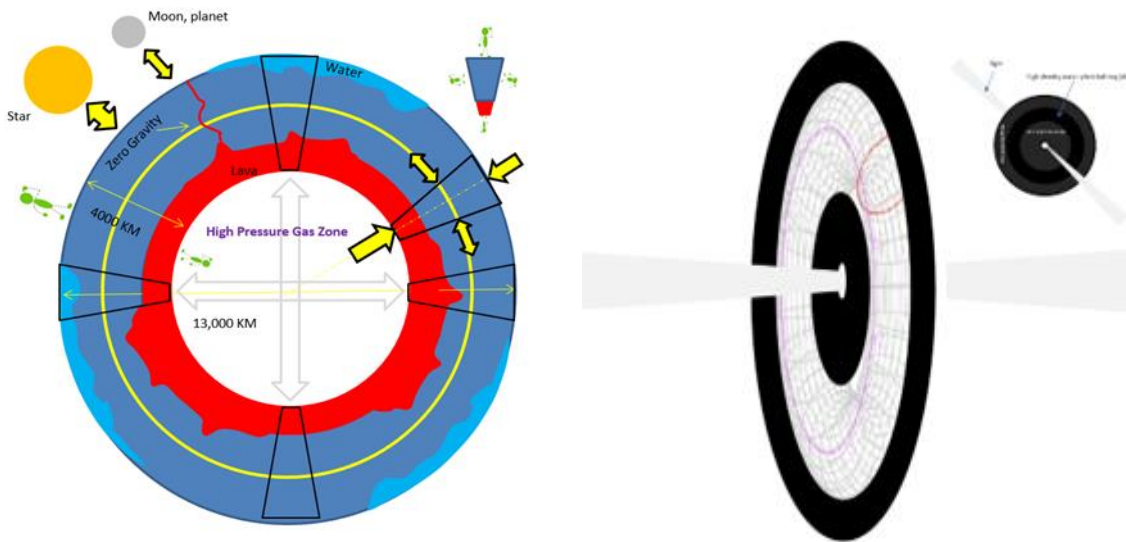

Figure. 1 a- Scenario for planets, stars and moons (left), b- Scenario for black holes (right), The three dimension figures imported from google images.

Another scenario (more possible) is that the gravitational force directed from the centre of the galaxy toward the edges (surface) derived by the substantial number of objects in the galaxy may create a hollow black disk (absolutely empty) in the centre of the galaxy. The gravitational force between the opposite parts of the galaxy across this hollow space is what keeping the galaxy contained together rather than a heavy object at the centre (a black hole). Based on this scenario, there is no massive objects with massive densities and massive gravities at the centre of galaxies. It is just an absolute vacuum due to high gravitational force where only light can penetrate this space and only at the centre (Figure 2).
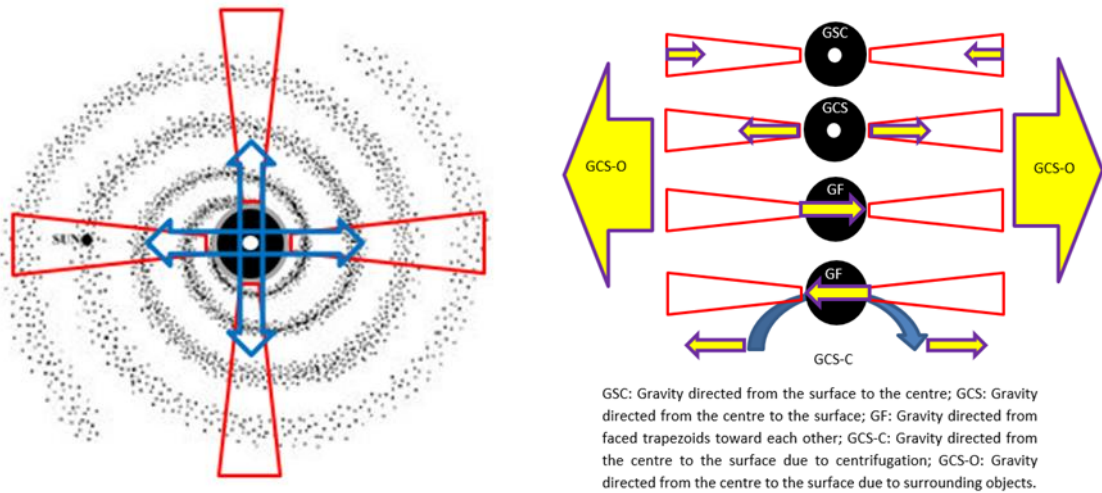
GSC: Gravity directed from the surface to the centre; GCS: Gravity directed from the centre to the surface; GF: Gravity directed from faced trapezoids toward each other; GCS-C: Gravity directed from the centre to the surface due to centrifugation; GCS-O: Gravity directed from the centre to the surface due to surrounding objects.

Figure. 2. The other scenario for a black hole, no object sit at the centre, just a hollow space.

Based on this hypothesis, it will be possible to travel (at speed of light) through the hollow spaces in the black holes. Whatever fall in the hollow core of the galxy centre will end at the edge (surface). This may be the reason why the centre of the galaxy is surrounded by bright objects (bright galaxy centre) because all the lights fall in hollow centre are redirected to the edges. Also, to experince zero gravity, a tunnel across the perimeter of any solid object (moon, planets) at a specific depth from the surface (less than the middle way between the surface and the centre) will have a zero gravity.

Some experiments can be conducted to prove some aspects of this hypothesis, as following. One experiment, under a mountain in a tunnel, an object will have a weight less than its weight outside the tunnel (mass of the small trapezoid created above the object in the mountain to the mass of the trapezoid created below the object in earth mass). Second experiment, in a vacuum chamber, two objects with same weights but different surface areas, the smaller surface area object will fall at a speed less than the bigger one, the difference is the mass of the small trapezoid created by the small surface area object to the mass of the trapezoid created by the bigger object both on earth mass. A third experiment is required to prove that earth is a hollow object, mathematical formulations and simulation can be used for this purpose.

Gravity is exerted from individual and system objects in an interactive way. For example, our solar system, the gravity between the sun and the earth is actually the sum of the gravitational forces of the Sun, Mercury and Venus system plus the gravitational force of the Earth and the Moon system minus or plus any other objects' gravitational forces depend on the direction of its gravitational force. Thus, it is not the black hole that uphold the galaxy attached together, it is the swarm of stars, planets and moons orbiting around the hollow centre as a system in an interactive way.

Acknowledgment

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