Black Holes do not Exist

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Abstract

It is shown why black holes cannot exist and given the reason for repulsive forces which prevent gravitational collapse their creation.

Analysis

Black holes are popular objects of research and subjects of various fantastic considerations. Hardly anybody doubts their existence although they incorporate many absurdities worthy of speculative theories of science-fiction, such as time travel, crossover to other universes, etc.

It is fascinating to think that after explosion and consequent gravitational collapse, a star must reduce its radius to Schwarzschild's $\mathbf{r = 2\kappa m/c^2}$, ($\boldsymbol{\kappa}$ - gravitational constant, **m** – mass of the collapsing star, **c** – speed of light) before becoming a black hole. Here, it is presumed that the escape speed is equal to the speed of light, meaning that nothing, including light, can escape. It becomes invisible. The Schwarzschild radius of a non-rotating spherically symmetric black hole defines its event horizon (the situation for a rotating black hole is a bit different – the geometry is not spherical but elliptical and the ergo-sphere appears). The event horizon is the point at which time stops. As time represents motion or process, its lack infers cessation of motion and loss of all kinetic energy. Nothing can reach the event horizon without losing all kinetic energy. Everything totally freezes at the event horizon and time, beyond this point, becomes an imaginary value.

Let us suppose two different viewpoints – ours and the observer situated at the collapsing star. Our viewpoint is authoritative for our Universe. Any object will approach the event horizon for an infinitely long time without reaching it. Let us look at the situation from the viewpoint of our observer at the collapsing star. Let his last moment take him one millisecond before reaching the event horizon. All future history of the Universe will elapse during this last millisecond. The question is: When will the observer cross the event horizon? Never! The observer reaches total immobility near the event horizon as his time and motion stop.

It is declared that if a collapsing star has more than three times greater rest mass than the Sun, it does not have enough inner repulsive forces to stop its gravitational collapse to a singularity. This gives almost zero dimension and infinite density. This fact should suggest to theoretical physicists that some unknown repulsive forces must exist inside matter, which is capable of counteracting gravitational collapse. But they prefer the absurdity of black holes, while at the same time, postulating the existence of dark matter and dark energy. Many theoretical physicists spend all of their professional lives studying and analysing the theories of black holes hoping for a unification of quantum physics with the general theory of relativity. Stephen Hawking for example, “discovered” that black holes “evaporate” thanks to quantum effects.

Knowing the nature of matter and gravity, the source of repulsive forces capable of stopping gravitational collapse is clear. As shown [1] the elementary building blocks of matter and space – quantum connections (dipoles), which enable the non-local connection of everything with everything, act locally to each other by mutual pressure. The number of inner elementary quantum connections of the object with gravitational mass **m** is directly proportional to the square of this mass, while the number of external quantum dipoles connecting the object with the whole Universe is directly proportional to **m.(M-m)**, where **M** is the gravitational mass of the Universe. This means that the mutual local repulsive pressures of inner and external quantum connections rapidly increase during the gravitation collapse of the star and stop it before creating the event horizon. So no massive body can become a black hole.

The question is: What are the dark objects in systems with two or more stars or inside galaxies, which exceed the mass of the Sun by many times, if not black holes? They are the normal compact extinct non-radiant stars whose radii comes near to their limit but never reach it. The mass density of very massive bodies with a radius close to Schwarzschild's one can even be relatively small, because it decreases with the square of the mass, as it follows from the relations for mass density $\rho = m/V$, volume $V=(4/3)\pi r^3$ and the Schwarzschild radius $r = 2\kappa m/c^2$. With relatively small density, where the object is very massive, the inner pressure of elementary quantum connections is enormous and compensates for the gravitational attraction and prevents the creation of a black hole.

The attractive and repulsive forces are always in a dynamic equilibrium. If the attractive force increases thanks to gravity, the repulsive force grows thanks to an increase of the local simultaneous pressure of quantum connections. Gravity, as a consequence of cosmic expansion, is the most evident manifestation of the dynamic equilibrium of the repulsive force of cosmic expansion and the attractive force of cosmic gravity. Gravity is the most substantial evidence of cosmic expansion in the contemporary phase of the Universe.

Conclusion

Black holes are now the celebrated pinnacle of theoretical physics and a very popular theme for science-fiction. But their existence is excluded by the above considerations. Although astronomy shows that there are very compact and massive bodies in systems with two or more stars as well as in the centres of some galaxies, they are **not** black holes. Their non-existence will be a great disillusion for enthusiasts although the Universe is fantastic enough without them, and maybe even more beautiful.

References

[1] P. Kohut, God and the Universe, VDM Verlag Dr. Muller, Saarbrucken 2011.
www.amazon.co.uk/God-Universe-Revolution-Peter-Kohut/dp/3639331044