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OFFICIAL CONFIRMATION OF THE EXISTENCE OF BLACK HOLES AND THEIR FIRST PHOTO

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Анотація

У даній статті описана основна інформація про чорні діри та новина про першу сфотографовано чорну діру.

Ключові слова: *чорні діра, фото, космос, технології, телескоп, астрофізика, Чумацький шлях, горизонт подій.*

Abstract

This article describes the basic information about black holes and the news of the first photographed black hole.

Keywords: *black hole, photo, space, technology, telescope, astrophysics, Milky Way, horizon horse.*

Introduction

The space exploration has improved a lot during last 20 years. It was caused by the development of technologies in general. But we still have a huge number of questions and one of the weirdest and unknown matter was and remains Black holes. Until recently the existence of black holes wasn't proven. But having a photo of it we can boldly claim that it does exist. Thought, it was the main goal of this project - to prove what scientists could only suggest earlier.

Research

Black holes are points in space that create deep gravity sinks. Beyond a certain region, not even light can escape the powerful tug of a black hole. And anything that ventures too close—be it star, planet, or spacecraft—will be stretched and compressed like putty in a theoretical process aptly known as spaghettification.

Lately scientists produced the first real image of a black hole, that located in a galaxy called Messier 87. The image is not a photograph but an image created by the Event Horizon Telescope (EHT) project. Using a network of eight ground-based telescopes across the world, the EHT collected data for two years to produce the image. The black hole itself is unseeable, as it's impossible for light to escape from it; what we can see only its event horizon. The EHT was also observing a black hole located at the centre of the Milky Way, but was unable to produce an image. While Messier 87 is further away, it was easier to observe, due to its larger size.

According to Einstein's General Theory of Relativity, any massive object actually distorts the space-time around it, including our Sun, Earth, or even us. A black hole is an extreme case in the sense that at its singularity the curvature of space-time becomes infinite, preventing even light to escape. The boundary beyond which light cannot escape the black hole's gravity well is known as the event horizon, while its radius is called the Schwarzschild radius. Objects that pass into the event horizon are thought to go through spaghettification (sometimes referred to as the noodle effect**)**, a process, first described by Stephen Hawking, in which they will be stretched out like a piece of pasta by gravitational forces. We can see the event horizon as a golden ring at the picture .

Heino Falcke, professor of radio astronomy and astroparticle physics at Radboud University in Nijmegen, and chair of the EHT science council, says the image shows a silhouette of the hole against the surrounding glow of the event horizon, all of the matter being pulled into the hole. At the centre of the black hole is a gravitational singularity, where all matter is crushed into an infinitely small space.

The black hole lies 55m light years away from us. It is around 100bn km wide, larger than the entire solar system and 6.5bn times the mass of our sun.

Conclusion

The attempt of proving the existence of black holes was one of the greatest researches for last years. Thus, the main goal of this project - is to prove what scientists could only suggest earlier and this goal was reached. If to track the tendency of the space sphere development, we can unquestioningly claim that we'll soon be much closer to the truth and this project will flip the science upside down and will cause new and new researches, connected with the space exploration. So, who knows, maybe in 40 years we'll be the experienced space traveler, or, even, we'll find new forms of life among all that boundless space.

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