

Cosmic Science: The star system TRAPPIST-1 does not 'exist' the big Moon

Does the star system TRAPPIST-1 exist in large Moon? Invite you to find out!

1. Stephen Hawking warned: "Humans have only 100 years left to leave Earth."
2. The United States must prepare carefully for the Japanese Food Festival which will take place on August 21
3. Photos of 7 planets may exist in the Trappist-1 star system

Although we already know thousands of exoplanets and alien " candidates " on planet Earth, the search for moons outside the solar system is just beginning. We have not had a search for a secret discovery yet, but they will be released soon.



Photo of the moon The fantasy planet moves around a planet. The exoplanet moon has not been discovered, but we do know thousands of exoplanet "candidates" (Exoplanet - planet outside the Solar System). Photo source: NASA

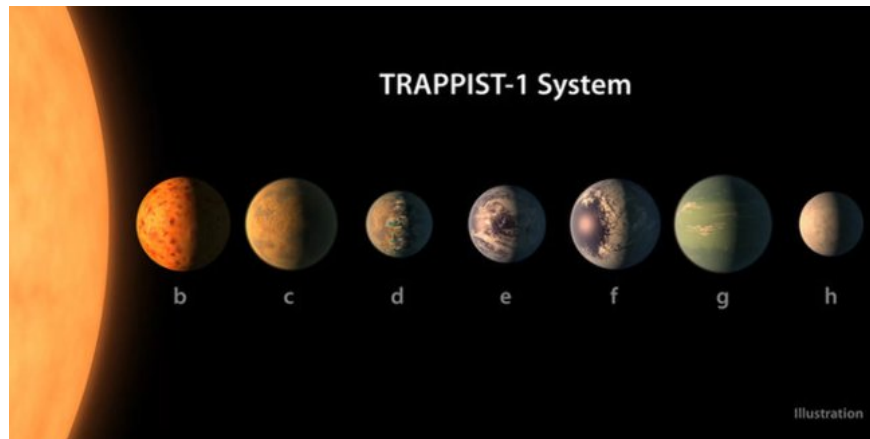
The search for **exoplanets** (*Exomoon - Moon outside the solar system*) will help us better understand the habitat on Earth. Some experts argue that the reason for the development of life is because our Moon itself is about the same size as the planet, stabilizing its axis of rotation. However, other studies (*like the 2011 American Astronomical Society article citing a NASA cosmic biological story*) suggest that the gravitational influence of other planets in the solar system is level of stability.

A new study recently looks for the possibility of a large moon appearing in **the TRAPPIST-1** star system, a famous crowded alien planetary system that might exist within it. Earlier this year, observations from NASA's Spitzer Space Telescope showed that 7 planets in the star system TRAPPIST-1 could have a rocky surface and

exist in liquid form, making the star system TRAPPIST-1 become a system that has the ability to survive.

However, even before NASA's discovery, TRAPPIST-1 was known and considered by scientists, including article author, **Stephen Kane**, astronomy professor at the University of San Francisco, expert on Exotic planets.

" *Currently, I have some articles about exoplanets and for many years, I have been thinking about the possibility of the planet storing a moon about the size of planets and the distance to the star. "The discovery of the TRAPPIST-1 star system eventually prompted me to calculate whether the planets in the dense planetary system actually received the moons, "* Kane wrote in an email.



The star system TRAPPIST-1 is located about 40 light-years from Earth. Photo source: R. Hurt / T. Pyle / NASA / JPL-Caltech

Kane warned: " *Scientists cannot admit the Earth's properties to the Moon, because the Earth is the only life-surviving planet known today. However, the Moon has one. Important role: It creates significant tides on Earth and can help create tidal lakes, which may occur early biochemistry "*.

" *The presence of the Moon has helped stabilize the shift of the tilt of the Earth's axis, thereby creating climate stability for a long time. So, although it is difficult to say that the Earth will How about without the moon but we can still describe how it positively affects our current environment , "*Kane added.

Kane discovered: " *In the star system TRAPPIST-1, the planets are very close to each other, so the emergence of the big moon will not happen. At that time, the rotation axis of the planets will quickly change and the climate becomes more chaotic, life can still evolve - it only takes a long time . "*



Kane's method involves studying the effect of two parameters: **Hill radius** or space in space, in which a planet has a gravitational influence based on its mass and distance from the host star; and **the Roche limit** , determining where gravitational effects near a planet are too strong for a moon to exist.

" The moon can only exist on one planet if it lies between two boundaries: too close and it will be destroyed, too far and it will escape the gravitational influence of the planet. The research results are The description in my paper shows that, for most planets in dense star systems, the Hill radius and Roche limit are close enough so that there is no space for a moon to exist and hence the "You can't have moons in orbit around them ," Kane said.

Having fun!

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