

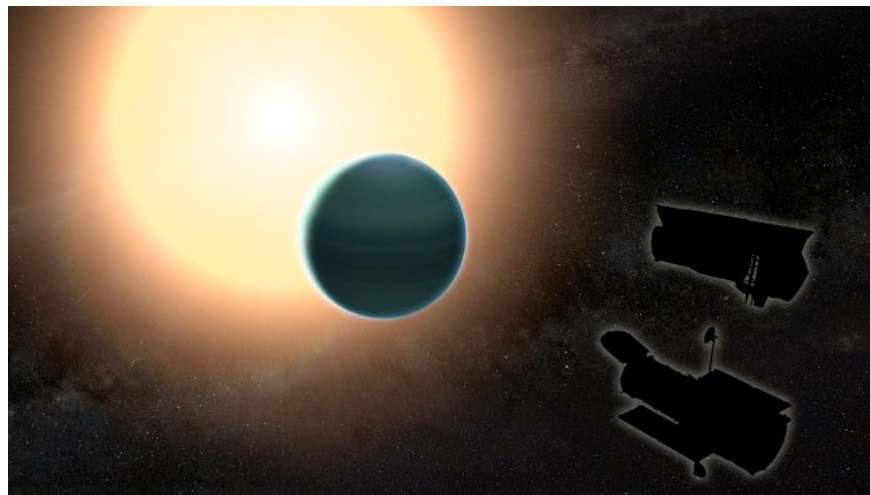
# NASA discovered water in planetary Neptune's atmosphere

NASA found water in the atmosphere of the HAT-P-26b, a planetary Neptune-like planet more than 430 light-years from Earth, though it was not a water world.

Recently, NASA scientists have found water in the atmosphere of the **HAT-P-26b** , a planetary Neptune-like alien, located more than 430 light-years from Earth, although it is not a water world.

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Scientists were surprised to discover the atmosphere of a distant planet of the size of Neptune. This finding reminds the scientific community: " *The lessons we know in the solar system are not always applied when exploring distant planets .*"



The new planet, called the **HAT-P-26b** , is located about 437 light-years from Earth and is called " *warm Neptune* " or " *Neptune hot* , " due to the mass of the HAT-P-26b. equivalent to Neptune but the orbit is very close to the host star. These planets have been discovered before, but none of them are like HAT-P-26b.

" *Astronomers have begun to examine the atmosphere in distant planets that look like Neptune. And immediately, we see this as an example that goes against all the rules that exist. in the solar system ,*" said **Hannah Wakeford** , one of the researchers, NASA's Goddard Space Flight Center project.

" *These unexpected findings are really interesting. That's why I absolutely love exploring the atmosphere of alien planets* ," Hannah Wakeford said.

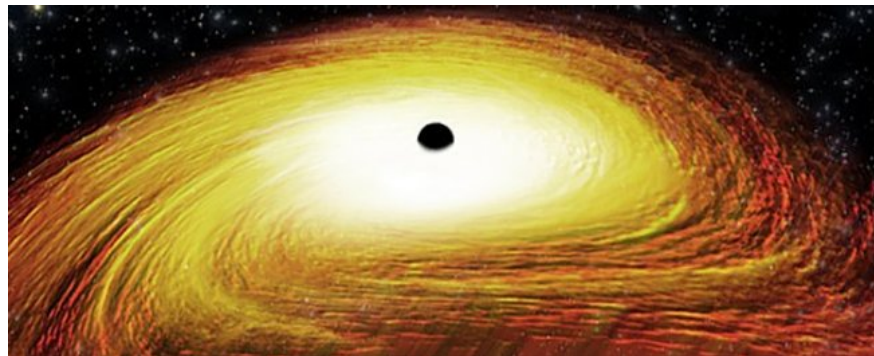


The strange thing about the planet HAT-P-26b is its unexpected primitive atmosphere, consisting almost entirely of hydrogen and helium. For a planet located near the host star, its rotation **only takes 4.23 days** . In fact, this breaks astronomical models used to observe the atmospheric composition of other planets in the solar system.

When that happens, the tight trajectory of the HAT-P-26b makes research easier. One of the ways scientists can study the atmosphere of alien planets is to observe them as they move through the host star.

When the planets do this, the telescope can analyze the light from a star filtered by the planet's atmosphere, helping us learn more about the chemicals that make up that space.

Using data from NASA's Hubble and Spitzer telescopes, Wakeford's team found that the atmosphere of the HAT-P-26b planet is cloudless but has clear signs of water. According to the researchers, this is the best way to calculate the time that the water level on the planet grows to this size.



It is important that the water signal allows the team to estimate the metal properties on the planet HAT-P-26b, the extent to which the planet's atmosphere is dominated by elements heavier than hydrogen and helium.

In the case of the solar system, larger planets often have lower metal properties. This can be demonstrated by two giant gas stars - Jupiter and Saturn. Jupiter has 5 times more metal than the Sun, and Saturn is 10 times higher. This also means that the two stars' atmosphere is primarily made up of hydrogen and helium. Besides, Uranus and Neptune are smaller and have more orbit around the Sun, which is higher in metal - about 100 times more than the Sun.

For planets outside the solar system, the metallic properties will be lower in larger planets and closer to the Sun.

Scientists believe that when the planets are formed from the planet's dust, the Solar system was still "young". While Jupiter and Neptune were " *bombarded* " by the ice fragments of heavy elements. As a result, their atmosphere is now less metallic.



But in the case of the HAT-P-26b, it is not only not far from the master star but also clinging to it. However, the HAT-P-26b's atmosphere mostly consists of hydrogen and helium, just like Jupiter and Saturn.

Wakeford said in the Los Angeles Times: "The *HAT-P-26b* can form near its host star, where it is not bombarded by icy debris and heavy elements ". If so, this finding is still a big surprise for researchers.

" *We don't even know that planets of this size can form near the host star* ," said one scientist.

The HAT-P-26b is certainly not normal and it also gives a tremendous value to astronomers because it shows there are still mysterious worlds that exist in our cosmic planet. . In the future, it is possible that the space science industry will also find more surprising things..

" *This new finding shows a greater diversity in the aliens' atmosphere, providing insights into how new planets form and evolve - different from those in the solar system.* " , **David K. Sing** - one of the researchers at Exeter University in the UK, explained.

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