

Astronomers discover strange 'comet' with tail up to 560,000km long

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The exoplanet, called WASP-69 b, is located 164 light-years away from Earth. As the planet moves, it creates a long tail of gas behind it — much like a comet. Although scientists discovered WASP-69 b in 2014, recent studies have only determined that the exoplanet has a long tail of gas.

Structurally, WASP-69 b is a so-called hot Jupiter, meaning a gas giant orbiting very close to its star. WASP-69b is 1.1 times the diameter of Jupiter, but orbits so close to its star that a year on the planet lasts less than four days and has a scorching temperature of more than 600 degrees Celsius. WASP-69b is comparable to Mercury, the closest planet to the Sun, which orbits the Sun every 88 days.



Such close proximity to its host star also gives WASP-69 b a very distinctive feature: a long tail. Radiation from the host star 'bombards' WASP-69 b's atmosphere, stripping away gases like hydrogen and helium. And when streams of particles from the host star called stellar winds hit the planet, they pull these escaping gases into a tail shape. The tail is observed to be more than 7.5 times the radius of the planet, meaning it stretches for more than 350,000 miles or 560,000 kilometers.

In fact, WASP-69 b's tail could be even longer, as researchers haven't had enough time to observe its entire length with their telescopes. However, since it's formed by a stellar wind, it's entirely possible that the tail could shrink over time if the wind weakens.

The process of planets losing their atmospheres over time is common, and is thought to be similar to what happens to planets like Mars in our own solar system. What's remarkable is that the tail formation is unusual. However, while WASP-69 b is losing a lot of gas, at a rate of 200,000 tons per second, given its massive size (about 90 times the mass of Earth), the planet won't lose its entire atmosphere anytime soon — and will continue to exist for thousands of years, with its distinctive tail trailing behind it.

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