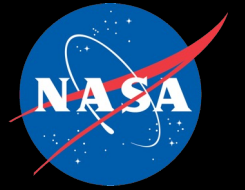


NASA's Hubble Finds Water Vapor in Small Exoplanet's Atmosphere



Astronomers using Hubble have observed the smallest exoplanet, called GJ 9827d, where water vapor has been detected in the atmosphere.

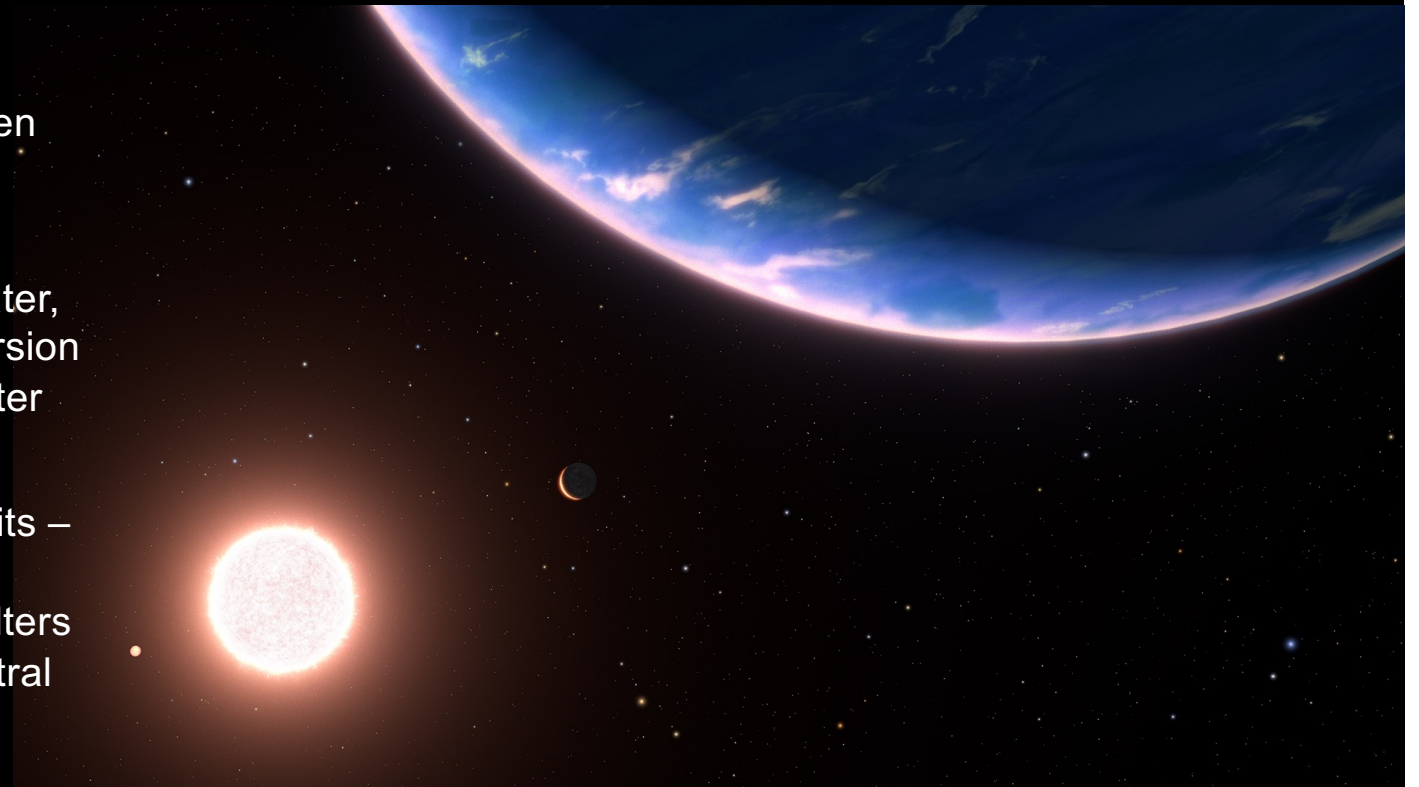
The research team posits two possibilities. In one, the planet hosts a hydrogen-rich atmosphere laced with water, making it a mini-Neptune. In the other, it's a warmer version of Jupiter's moon Europa, which has twice as much water as Earth beneath its crust.

The Hubble program observed the planet over 11 transits – events in which the planet crossed in front of its star – spaced out over three years. During transits, starlight filters through the planet's atmosphere and picks up the spectral fingerprint of water molecules.

GJ 9827d was discovered by NASA's Kepler in 2017.

Paper: <https://iopscience.iop.org/article/10.3847/2041-8213/acebf0>

News article: <https://science.nasa.gov/missions/hubble/nasas-hubble-finds-water-vapor-in-small-exoplanets-atmosphere/>



This is an artist's concept of the exoplanet GJ 9827d, the smallest exoplanet where water vapor has been detected in the atmosphere.