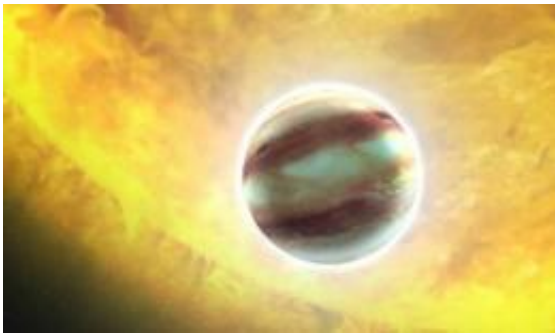


Hubble telescope makes one millionth science observation

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This is an artist's concept of that planet, HAT-P-7b. It is a "hot Jupiter" class planet orbiting a star that is much hotter than our sun. Hubble Space Telescope's millionth science observation was trained on this planet to look for the presence of water vapor and to study the planet's atmospheric structure via spectroscopy. Credit: NASA; ESA; G. Bacon, STScI

NASA's Hubble Space Telescope crossed another milestone in its space odyssey of exploration and discovery. On Monday, July 4, the Earth-orbiting observatory logged its one millionth science observation during a search for water in an exoplanet's atmosphere 1,000 light-years away.

"For 21 years Hubble has been the premier [space](#) science observatory, astounding us with deeply beautiful imagery and enabling ground-breaking science across a wide spectrum of astronomical disciplines," said NASA Administrator Charles Bolden. He piloted the [space shuttle mission](#) that carried Hubble to orbit. "The fact that Hubble met this

milestone while studying a faraway planet is a remarkable reminder of its strength and legacy."

Although Hubble is best known for its stunning imagery of the cosmos, the millionth observation is a spectroscopic measurement, where light is divided into its component colors. These color patterns can reveal the [chemical composition](#) of cosmic sources.

Hubble's millionth exposure is of the planet HAT-P-7b, a [gas giant planet](#) larger than Jupiter orbiting a star hotter than our sun. HAT-P-7b, also known as Kepler 2b, has been studied by NASA's planet-hunting Kepler observatory after it was discovered by ground-based observations. Hubble now is being used to analyze the chemical composition of the planet's atmosphere.

We are looking for the spectral signature of water vapor. This is an extremely precise observation and it will take months of analysis before we have an answer," said Drake Deming of the University of Maryland and NASA's Goddard Space Flight Center in Greenbelt, Md. "Hubble demonstrated it is ideally suited for characterizing the atmospheres of [exoplanets](#), and we are excited to see what this latest targeted world will reveal."

Hubble was launched April 24, 1990, aboard space shuttle's Discovery's STS-31 mission. Its discoveries revolutionized nearly all areas of astronomical research from planetary science to cosmology. The observatory has collected more than 50 terabytes of data to-date. The archive of that data is available to scientists and the public at: <http://hla.stsci.edu/>

Hubble's odometer reading includes every observation of astronomical targets since its launch and observations used to calibrate its suite of instruments. Hubble made the millionth observation using its Wide Field

Camera 3, a visible and infrared light imager with an on-board spectrometer. It was installed by astronauts during the Hubble Servicing Mission 4 in May 2009.

"The Hubble keeps amazing us with groundbreaking science," said Sen. Barbara A. Mikulski, the chairwoman of the Senate Commerce, Justice, Science and Related Agencies Appropriations Subcommittee that funds NASA. "I championed the mission to repair and renew Hubble not just to get one million science observations, but also to inspire millions of children across the planet to become our next generation of stargazers, scientists, astronauts and engineers."

Provided by NASA's Goddard Space Flight Center

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