

= WASP @-@ 44 =

WASP @-@ 44 is a G @-@ type star in constellation Cetus that has the Jupiter @-@ size planet WASP @-@ 44b in orbit . The star is slightly less massive and slightly smaller than the Sun ; it is also slightly cooler , but is more metal @-@ rich . The star was observed by SuperWASP , an organization in search of planets , starting in 2009 ; manual follow @-@ up observations used WASP @-@ 44 's spectrum and measurements of its radial velocity led to the discovery of the transiting planet WASP @-@ 44b . The planet and its star were presented along with WASP @-@ 45b and WASP @-@ 46b on May 17 , 2011 by a team of scientists testing the idea that Hot Jupiters tend to have circular orbits , an assumption that is made when the orbital eccentricity of such planets are not well @-@ constrained .

= = Observational history = =

WASP @-@ 44 was observed between July and November 2009 by the WASP @-@ South , a station of the SuperWASP planet @-@ searching program based at the South African Astronomical Observatory . Observations of the star revealed a periodic decrease in its brightness . WASP @-@ South , along with the SuperWASP @-@ North station at the Roque de los Muchachos Observatory on the Canary Islands , collected 15 @,@ 755 photometric observations , allowing scientists to produce a more accurate light curve . Another set of observations yielded a 6 @,@ 000 point photometric data set , but the light curve was prepared late and was not considered in the discovery paper .

In 2010 , a European science team investigated the star using the CORALIE spectrograph and collected seventeen spectra of WASP @-@ 44 . From the spectra , radial velocity measurements were extrapolated . Analysis of collected CORALIE data ruled out the possibility that the detected radial velocity was caused by the blended spectrum of a spectroscopic binary star , supporting the possibility that the body orbiting WASP @-@ 44 was indeed a planet , designated WASP @-@ 44b .

The Leonhard Euler Telescope at La Silla Observatory in Chile was used to follow up on the discovery circling WASP @-@ 44 , searching for a point at which the planet transited , or crossed in front of , its host star . One transit was detected .

WASP @-@ 44 , its recently discovered planet , the planets orbiting WASP @-@ 45 and WASP @-@ 46 , and a discussion exploring the validity of the common assumption amongst scientists that closely orbiting Hot Jupiter planets have highly circular orbits unless proven otherwise , were reported in a single discovery paper that was published on May 17 , 2011 by the Royal Astronomical Society . The paper was submitted to the Monthly Notices of the Royal Astronomical Society on May 16 , 2011 .

= = Characteristics = =

WASP @-@ 44 is a G @-@ type star (the same class of star as the Sun) that is located in the Cetus constellation . WASP @-@ 44 has a mass that is 0 @.@ 951 times that of the Sun . In terms of size , WASP @-@ 44 has a radius that is 0 @.@ 927 times that of the Sun . WASP @-@ 44 has an effective temperature of 5410 K , cooler than the Sun . However , the star is metal @-@ rich with relation to the Sun . Its measured metallicity is [Fe / H] = 0 @.@ 06 , or 1 @.@ 148 times that the amount of iron found in the Sun . WASP @-@ 44 's chromosphere (outermost layer) is not active . The star also does not rotate at a high velocity .

The star has an apparent magnitude of 12 @.@ 9 . It cannot be seen from Earth with the naked eye .

= = Planetary system = =

There is one known planet in the orbit of WASP @-@ 44 : WASP @-@ 44b . The planet is a Hot

Jupiter with a mass of 0.889 Jupiters . Its radius is 1.14 times that of Jupiter . WASP b-44 orbits its host star every 2.4238039 days at a distance 0.03473 AU , approximately 3.47% the mean distance between the Earth and Sun . With an orbital inclination of 86.02° , WASP b-44 has an orbit that exists almost edge on to its host star with respect to Earth . WASPA b-44 's orbital eccentricity is fit to 0.036 , indicating a mostly circular orbit .