

= HD 217107 c =

HD 217107 c is an extrasolar planet approximately 64 light @-@ years away from Earth in the constellation of Pisces ( the Fish ) . The planet was the second planet to be discovered orbiting the star HD 217107 . HD 217107 c 's existence was hypothesized in 1998 due to the eccentricity of the inner planet 's orbit and confirmed in 2005 when radial velocity studies of the star indicated another , more distant and massive companion orbiting the star . The planet has an eccentric orbit lasting on order of a decade .

= = Detection and discovery = =

A study of the radial velocity of HD 217107 carried out in 1998 revealed that its motion along the line of sight varied over a 7 @. @ 1 day cycle , indicating the presence of a planet in orbit around the star . The planet was designated HD 217107 b , and was found to be somewhat heavier than Jupiter , and orbiting extremely close to the parent star in an orbit with quite a large eccentricity .

Most planets with orbital periods of less than 10 days have almost circular orbits , and its discoverers proposed that the high eccentricity of HD 217107 b 's orbit could be due to the gravitational influence of a second planet in the system at a distance of several astronomical units ( AU ) . Confirmation of the existence of the second planet followed in 2005 , and it was designated HD 217107 c .

The parameters of this planet was initially very weakly constrained , with a period in excess of 8 years with a high eccentricity and a minimum mass of approximately two times the mass of Jupiter . Continued observations restrained the plausible solutions substantially , resulting in the current parameters published in 2008 .