

Extrasolar Planet



Over the past ten years, astronomers around the world have discovered about 150 planets around other stars. Most search programs for planets outside our own solar system focus on stars similar to our own sun. The Tautenburg Observatory in Germany, however, is looking for planets around classes of stars not covered by other search programs, for example very young and active stars, brown dwarfs or giant stars with a larger mass than our sun.

definition

Exoplanet/ Extrasolar planet

Planet outside our solar system.

Planet

A planet (from the Greek word *plánētes* = wanderer, vagrant) is a non-luminous celestial body that revolves around a star according to Kepler's law. Most planets in the solar system are orbited by moons.

Star

A star is a self-luminous celestial body consisting of plasma, the energy of which is created by nuclear fusion in its interior. The star nearest to us is the sun at the center of our solar system. Life on earth is not possible without the heat and energy emitted by the sun. Astronomers in the Middle Ages did not know that the sun is a star.

The first extrasolar planet discovered with a telescope stationed in Germany accompanies the "HD 13189" star. Using the 2-meter telescope at the Thuringian State Observatory in Tautenburg, *Artie Hatzes*, one of the pioneers in the search for planets, was able to prove that a planet circles HD 13189. The mass of HD 13189 is about 2 to 7 times the mass of our sun. HD 13189 is about 6000 light years away from earth. It might be the biggest star known to have a planet. HD 13189's planetary companion completes its orbit within 472 days. Similar to most extrasolar plan-

ets, it is a giant gaseous planet, not comparable to our earth. The discovery has been confirmed by observations at the McDonald Observatory in Texas.

The Tautenburg Observatory uses a ZEISS 2-m telescope, known as the Alfred Jensch telescope, which can be used in three different optical configurations: Schmidt telescope, Quasi Cassegrain telescope and Coudé telescope. The primary mirror of the telescope has a focal length of 4 m. All mirrors are made of SITALL, a zero-expansion glass ceramic material.

Photo:
Thuringian State
Observatory
in Tautenburg:
2 m telescope at night.

Alfred Jensch, head designer in the astrology department at Carl Zeiss in Jena for many years and creator of the 2-m universal telescope.

Alfred Jensch, 1912-2001

