New planet discovered in habitable zone

Chris Wickham, Reuters

(Reuters) - An Anglo-German team of astronomers has discovered a new planet orbiting a nearby sun at just the right distance for an Earth-like climate that could support life.

The team actually found three new planets orbiting the star 44 light years away, but only one of them is in the so-called Goldilocks Zone, the band around a sun where temperatures are neither too hot nor too cold for liquid water to exist.

"The star HD 40307 is a perfectly quiet old dwarf star, so there is no reason why such a planet could not sustain an Earth-like climate," said Guillem Angla-Escude from Germany's University of Goettingen, who led the research with Mikko Tuomi at the University of Hertfordshire in Britain.

The planet has a mass at least seven times that of Earth but it orbits at about the same distance from its sun, meaning it receives a similar amount of solar energy as Earth gets.

More than 800 planets have been discovered outside our solar system since the first was detected in the early 1990s, but only a handful of those have been in the habitable zone.

Even more rare are planets in the zone that rotate, as this one does, to create a day-time and night-time, which increases the chance of an Earth-like environment. Those that don't spin are said to be tidally locked, with one half in constant darkness.

"This is the closest one to Earth in a habitable zone that is not tidally locked," University of Hertfordshire astronomer Hugh Jones told Reuters.

"Just as Goldilocks liked her porridge to be neither too hot nor too cold but just right, this planet, or indeed any moons that it has, lie in an orbit comparable to Earth, increasing the probability of it being habitable."

The planet, named HD 40307g, is part of a system that was previously thought to have just three planets, all in orbits too close to the star to support liquid water.

The astronomers made the discovery, unveiled in a research paper in the journal Astronomy & Astrophysics, by examining data from the HARPS spectrograph, attached to a European Southern Observatory telescope at La Silla in Chile's Atacama desert.

The HARPS device is able to pick up tiny changes in the color of the light coming from a host star as it wobbles under the gravitational influence of orbiting planets.

The team used a novel technique to filter out signals caused by the host star itself. "This significantly increased our sensitivity and enabled us to reveal three new planets around the star," said Mikko Tuomi.

(Editing by Kevin Liffey)

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