

Accident: Scientists discover small planet

Friday, 20 July 2012

Thirty-three light-years away, in the constellation Leo the lion, astronomers say they have found a world considerably smaller than Earth, orbiting a dim red-dwarf star.

That's something to think about. While scientists have confirmed the existence of more than 700 so-called exoplanets since 1995, most of them have been giant -- many considerably larger than Jupiter. This new world, say the researchers who found it, may be only 5,200 miles across, about two thirds as large as Earth.

"People have been picking at the low-hanging fruit, since Jupiter-sized planets are easier to see," said Kevin Stevenson, the young researcher at the University of Central Florida who led the team making the find. "Now we're really pushing the limits of what our telescopes can find."

The newly found world is, for now, called UCF-1.01, and Stevenson and his colleagues found it with NASA's Spitzer space telescope in Earth orbit. It orbits a star called GJ 436. They spent a year watching it to confirm that it was indeed a distant world. They are publishing their find online Thursday in the *Astrophysical Journal*.

UCF-1.01 is probably not a very nice place. Stevenson and his group calculated that it whips around its host star in only 1.4 Earth-days, at a distance of about 1.6 million miles (we're 93 million miles from our sun). Temperatures on its surface probably exceed 1,000 degrees Fahrenheit, raising the possibility that some of it is molten, covered in lava. Any atmosphere would have boiled away long ago, said the researchers.

They could not see it directly -- its sun is nothing but a dot in a telescope -- but they could see a tiny dip in the star's brightness as the disc of UCF-1.01 passed in front of it. For now, they cannot even calculate its mass; current technology is not good enough for a reliable number.

Nobody will be launching a mission to UCF-1.01 anytime soon; there are other worlds, including moons of Jupiter and Saturn, that look much more promising as homes for living things. Still, the find suggests that if this world could be detected, others -- perhaps in the so-called habitable zones around their host stars -- may soon be found as well.

"The discovery was completely by accident," said Stevenson in a telephone interview with ABC News. They were looking at another, much larger planet orbiting the same star, "and there were these spurious signals we could not explain."