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ASTRONOMY

Newly found planet suggests a system similar to our own

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While our solar system lost a planet (Pluto), a star called 55 Cancri, about 41 light-years distant in the direction of the constellation Cancer, gained a planet.



The new planet is the fifth around this star found by Geoff Marcy and co-workers at the University of California, Berkeley. Marcy, who appeared Nov. 7 on PBS' *NewsHour*, said: "We've finally found a star, which, by the way, is very similar to our sun -- the same mass, almost the same age, nearly the same chemical composition as our sun -- and this star harbors five planets."

The five planets around 55 Cancri resemble our own solar system. Using the Earth-sun distance as a measuring stick, known as 1 Astronomical Unit, our solar system has four planets (Mercury, Venus, Earth, Mars) inside of 1.5 AU, then a gap until we reach Jupiter at more than 5 AU from the sun. The new planetary system around 55 Cancri has four planets inside of 1 AU, including the new planet at 0.785 AU, then a gap until 6 AU. This brings up many questions, such as whether our solar system is unique and whether life exists elsewhere. We now know that our solar system is not so unusual. We still can't answer the second question, but if life is viewed as a biochemical process, then is it so hard to believe that life exists elsewhere?

There are about 100 billion stars in our galaxy. A significant fraction of these stars are similar to our sun. The star 55 Cancri is not far away, compared with the diameter of our galaxy. In other words, there are many, many sunlike stars in our galaxy.

Currently, astronomers are limited by technology and can find planets only around nearby stars. As technology improves, so will our ability to see farther into space.

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