Team behind discovery of planet with three stars retracts their article

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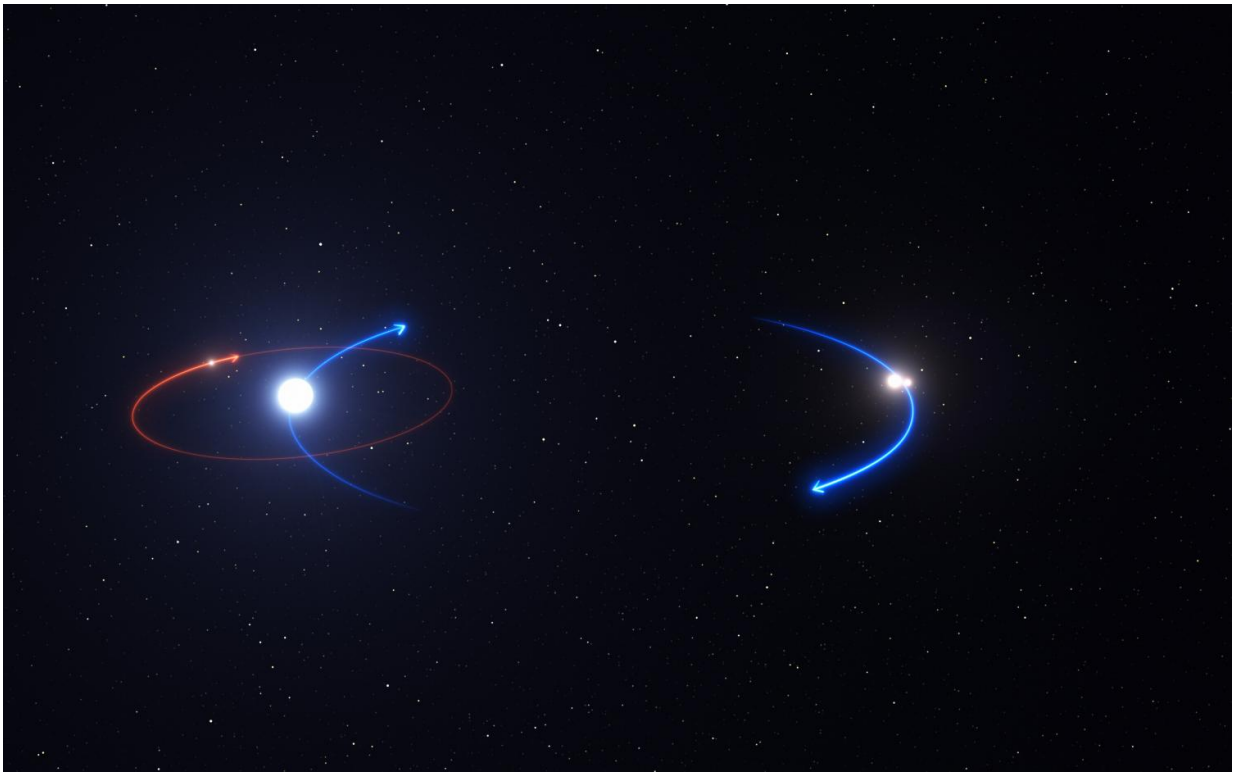

This graphic shows the orbit of the planet in the HD 131399 system (red line) and the orbits of the stars (blue lines). Credit: ESO

An international team of researchers who published a paper in the journal *Science* in 2016 describing their discovery of an exoplanet with three stars, has now retracted that paper.

In their original paper, the team described their work with direct imaging technology to study the triple-star system HD 131399. They spotted what they believed to be an exoplanet approximately four times the size of Jupiter. They also noted its apparent odd orbital system—the planet appeared to orbit just one of the stars while the other two stars were farther away.

Subsequent to the publishing of the paper, in 2017, another international team of researchers found evidence suggesting that the planet was not a planet after all—the data observed the year before, they claimed, was from a background object, perhaps a dwarf star. They further noted in their paper published in *The Astronomical Journal*, that the object was much more likely to be something moving unusually fast in the background in a path that coincided with star system HD 131399.

That finding led the original team to take another look at their earlier work and then to observe star system HD 131399 over an extended period of time. This allowed them to capture imagery of the star system in motion. They discovered "a clear parallax difference between the object and HD 131399"—confirmation that the light from what they had thought in 2016 was a planet was actually coming from much farther away than light from the stars in the system—ruling out the possibility that the light was from a planet in that system. It was instead most certainly from something much farther away in the distant background.

The researchers have suggested to members of the press that their work highlights the risk in making assumptions about stationary backgrounds in star systems, and that it is their hope that their experience will help to improve astronomy. All of the authors of the original paper have agreed to having their paper retracted.

More information: Kevin Wagner et al, Retraction, *Science* (2022). DOI: 10.1126/science.abq1709