

SPACE SCOOP

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Exoplanet Mismatch

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Although there are many planets in the Universe of various sizes, colors and characteristics, some are particularly unusual or unique!

New observations from the National Science Foundation's NOIRLab telescopes have found a planet that doesn't quite match how astronomers expect planets to form.

Meet K2-25b

In 2016, astronomers found a young exoplanet known as K2-25b. This planet is orbiting a young star in the Hyades star cluster. The "young" system is roughly 600 million years old and is located about 150 light years away.

K2-25b orbits a M-dwarf star. This is the most common type of star in the Milky Way galaxy.

An Unusual Find

What makes this planet peculiar is that it is unusually dense (meaning 'tightly packed') for its size and its young age.

K2-25b weighs about 25 times Earth's mass and is slightly smaller than the planet Neptune. This presented a mismatch between this exoplanet and how astronomers understand planets to form.

Planets with sizes between those of Earth and Neptune are common throughout our galaxy. These are “sub-Neptune” planets and we do not have any in our own Solar System. How this type of planet forms and evolves is an area of particular interest and curiosity for astronomers.

A Lasting Mystery

Planets of this size are usually made mostly of gas and are known as gas giants (like Jupiter, Saturn, Uranus and Neptune).

However, K2-25b is made almost entirely of rock! This is why the planet is very dense but it is also a big mystery.

Astronomers will continue to study this mysterious planet in hopes of upcoming the mystery to how and why it formed this way.

Image credit: NOIRLab/NSF/AURA/J. Pollard

▲ COOL FACT!

One year on planet K2-25b passes very quickly. This planet orbits its star in only 3.5 Earth days!