



Cosmic Magnet Mystery Solved?

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The Universe is immeasurably large and filled with countless weird and wonderful objects, so it's not surprising that we're discovering new things about it all the time. But some new discoveries are more exciting than others – like this week's discovery which might solve a 35-year-old mystery: the mystery of the solitary magnetar.

With the death of every star comes the creation of a new and exotic object. The type of object depends on the size of the original star. For example, when a star more than 30 times as massive as the Sun reaches the end of its life, it becomes a black hole.

But three years ago, astronomers stumbled across the remains of a star 40 times more massive than the Sun and what they found wasn't a black hole, it was a magnetar.

Magnetars are bizarre objects even by astronomical standards, often breaking records in terms of size and density – they grow no larger than a city, but weigh more than the Sun. They also spin incredibly quickly through space and are an astonishingly strong magnets!

Even stranger than a magnetar, is a magnetar that's on its own. Magnetars are formed by interactions between two stars, meaning they need a companion to exist. But this magnetar was found floating in space all on its own.

Astronomers believe that just before some massive stars evolve into a black hole, a companion star steals away some of its material. The companion eats enough of the star that it is no longer massive enough to form a black hole when it eventually explodes, and a magnetar is formed instead.

Astronomers believed that a star aided the creation of this mysterious magnetar before being ejected from the area by a cosmic blast, when the magnetar exploded. So, a search began for the runaway companion star.

This week, after many years of searching, astronomers have announced that they've caught the culprit fleeing the scene! By locating this star astronomers now have even more evidence supporting their theory of how magnetars form.

COOL FACT

Magnetars are the strongest magnets in the Universe. If there was a magnetar half the Moon's distance away from Earth, it would wipe the magnetic strips of every credit card on the planet!

This Space Scoop is based on a Press Release from [ESO](#).

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