**The most mysterious star in the universe**

Alien megastructures or just clouds of dust? Or something else entirely? But something, whatever it is, something massive, roughly 1,000 times the area of Earth, is blocking the light coming from a distant star known as KIC 8462852. And if that isn't enough, whatever is blocking the light is behaving in a very strange manner, like nothing ever seen before by astronomers.

KIC 8462852 is also known as Tabby's star after astronomer Tabetha Boyajian who first investigated this strange star. It was discovered as part of the 2009 Kepler mission. The Kepler satellite monitored 150,000 stars continuously for four years taking one data point every thirty minutes, looking for transits. These are very small drops in the light curves emitted by stars, and occurs when a planet passes between the star and the Kepler telescope. Even a giant planet such as Jupiter will only produce a brief 1% drop in the light curve, whilst a planet such as the Earth (which is 11 times smaller) produces hardly any discernable drop in the light curve.

Because there are so many stars, and so many data points, the information is analysed by computer, and sure enough, many planets were seen to exist. But someone wondered whether planets were being missed, and, despite much scepticism, whether human beings, with their ability to detect pattern recognition, might discover ones that the computer had missed. So the data was opened up to a project called Planet Hunters, and sure enough, planets missed by the computer showed up.

Including, KIC 8462852 which became know by as Tabby's star. It was missed by the computer for several reasons. Its light drop is immense compared to the norm. It's light drop is irregular. Normally the light drops as a planet passes in front of the star, and then rises in the same way as the symmetrical planet passes by. But not with Tabby's star. And usually the light drop occurs at regular intervals as the planet orbits its parent star.

But none of this applied with Tabby's star. The light drop was 15%, huge, and it was asymmetric. Could it be caused by a huge dust cloud? But this was quickly ruled out, because dust clouds themselves radiate in the infra-red spectrum, and this was n't happening. It was even suggested – seriously – that perhaps it was an alien structure circling the planet to generate power, just as we use solar panels or wind turbines. In fact, such was the interest in the argument, that SETI (Search for Extra-terrestrial intelligence) monitored the star for a while, but detected no transmissions. Many telescopes have been pointed at KIC 8462852 but all that they have done is rule out causes, and no one has any idea of what is going on with Tabby's star.

And so the mystery continues. The following causes have been suggested, but none fit the facts.

- Circumstellar dust cloud

- Cloud of disintegrating comets
- Younger star with cloud of coalescing material
- Planetary debris field
- Consumption of a planet
- Large planet with oscillating rings
- Large ringed planet with Trojan swarms
- Intrinsic luminosity variations
- Alien megastructures.
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And by the way, the idea that the cause might be down to alien megastructures was a series one proposed by professional astronomers