

MORE ON TABBY'S STAR

Remember Tabby's Star? It's the star that astronomer **Tabetha Boyajian** – who reported its strangeness in a Ted Talk in February, 2016 – famously called “the most mysterious star in the galaxy.” Also known as KIC 8462852 it is mysterious because astronomers have never seen another star do what this star does. One explanation for the strange dimming of its light is that the star has an alien-built megastructure – a Dyson sphere – around it. Does it? Will we ever know for sure? Those are unanswered questions, but, while you're pondering it, here's the latest on this wonderful star:

On August 3, 2016, two astronomers added more evidence that Tabby's Star is just plain strange. **Benjamin Montet** with the California Institute of Technology and **Joshua Simon** with Observatories of the Carnegie Institution of Washington have uploaded a paper detailing their study of the star by analyzing data from the NASA's Kepler space telescope (a famed planet-finding telescope) over the past four years. **They found that the star has been decreasing in brightness at an unprecedented rate.** Some astronomers think this star may have an alien megastructure – an energy-gathering Dyson sphere – around it.

No one has been able to come up with a reasonable explanation for Tabby's Star. One idea is that comet swarms surround the star. Another is similar, but it is planetary remnants, not comets. Then there's the exceedingly satisfying and exciting idea that the dips in the star's light might be due to an alien megastructure being built around the star. So far, none of the theories has been able to take into account all of the odd observations.

It's the job of the Kepler spacecraft to look for tiny dips in a star's light, caused by possible planets passing in front of the star. Professional astronomers analysing data from Kepler, and citizen scientists from the Planet Hunters crowdsourcing program, noticed the star KIC 8462852 from among the 150,000 stars examined by Kepler. They noted that it is “strange” and “bizarre.” **Tabitha first reported anomalies in the unusual light curve of star over the years 2009 to 2013.** Its light appeared to dip in ways that did not conform to what would be expected if it were due to a planet passing in front of it, temporarily blocking some of its light.

Her paper led to observations, commentaries and theories from others in the space community. In June, astronomers raised more than \$100,000 from a Kickstarter campaign to be able to study the star further.

Earlier this year, **Bradley Schaefer** with Louisiana State University published results of his efforts studying photographic plates that had captured the star going back to the 19th century. He reported that a long-term dimming in the light from the star by nearly 20 percent over just the past century. That result does support the idea of a megastructure being built, hiding more and more of the star's light from our view. His report was not received warmly by all, but Schaefer answered back that the criticisms were unfounded.

And now, using a different approach, Montet and Simon have found that over 200 days the brightness of the star dimmed by another 2.5 percent, before levelling out.

So the mystery continues.

AK, with EarthSky Notes



Hmmm. **Tabetha Boyajian**, the driving force behind bringing the mysterious star KIC 8462852 to public attention.



An artist's concept of a Dyson sphere. Physicist and astronomer Freeman J. Dyson first explored this idea in 1960, speculating that such structures would be the logical consequence of the escalating energy needs of a technological civilization



Finder chart for KIC 8462852. It's located in the direction to the constellation Cygnus, part of the Northern Hemisphere Summer Triangle asterism,