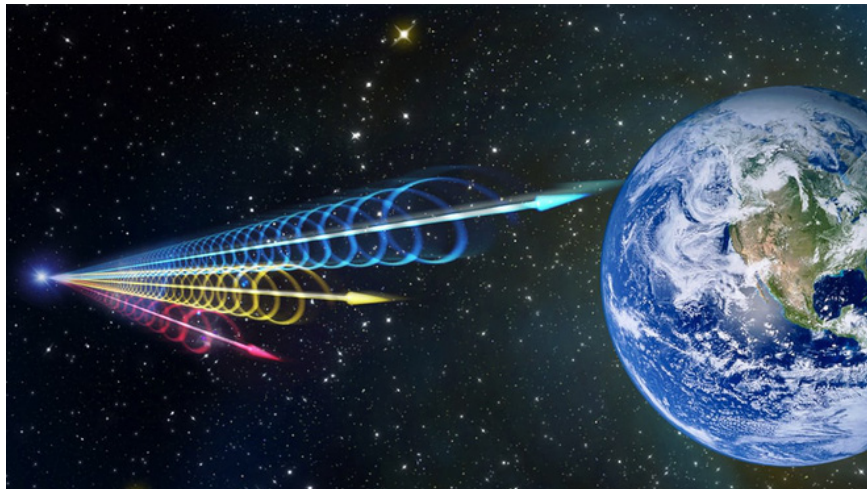


A galaxy 500 million light-years away that emits radio waves with a 16-day cycle 'almost like squeezing lemons'

Could aliens send these signals? Probably not.

Scientists have discovered a fast radio burst (FRB) with a steady rhythm and mysterious repetitive signals coming from another galaxy.

Rapid radio waves are strong pulses of radio waves lasting only a few milliseconds, originating from the explosion of mysterious energy in the universe, the energy from these FRBs per second can equal their energy. we receive from the Sun in a week. Because Rapid Radio Outbreaks occur in a split second, it is difficult to observe and research.

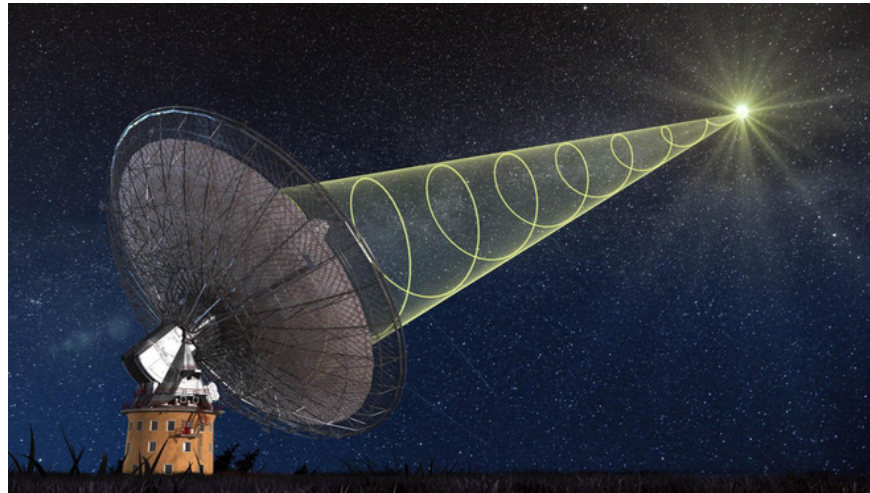


But according to recent research, a source of energy located in the galaxy 500 million light-years away is sending radio waves to Earth on a 16-day cycle. This marked an important milestone, when scientists first discovered the periodicity in the aforementioned signals, thereby revealing the mystery of their origin.

FRB is one of the most difficult questions that the Universe brings us. First discovered in 2007, these rapid radio waves have been created by enormous energy sources. Scientists assume that they come from fast-rotating neutron stars, the Black hole, or even from extraterrestrial civilizations. The FRBs are even more intriguing because they can be replicated periodically, meaning that some events only occur once in an instant, but there are also explosions that repeatedly come to Earth.

The pulse from these repetitive explosions, so far, seems to be random. But a new discovery last year changed this mindset: The Canadian FRB Density Concentration Mapping Experimental Project (CHIME / FRB) discovered a Rapid Radio Outbreak called FRB 180916. J0158 + 65 "has a very regular beat.

The CHIME / FRB team monitored this series of radio waves between September 2018 and October 2019, using the CHIME radio telescope located in British Columbia, Canada. They discovered concentrated explosions for 4 days and then extinguished for the next 12 days, creating a 16-day cycle of each occurrence.



At the end of January, the CHIME / FRB team concluded in an article published on ArXiv that this was the first time they had discovered a cyclic FRB source. It is the 16.35-day cycle that will be an important clue for us to infer the nature of the FRB source.

Currently, the team thinks the starting point for this FRB is a galaxy called SDSS J015800.28 + 654253.0, half a billion light years away. It sounds like a huge distance, but actually FRB 180916.J0158 + 65 is the closest FRB ever discovered.

While we know where the FRB comes from, we still don't know what "sent" it sent to Earth. The rhythm of the FRB indicates that the wave is more likely to be affected by its surroundings. If the FRB's source orbits a solid object such as a black hole, it can only send signals to the Earth at a certain point in its orbit. The possibility of a black hole impact has caused the above 16-day cycle.

A team of researchers also analyzed this data and put forward another theory, that the new FRB wave came from a binary star system - with an extremely large star and a neutron star orbiting it. However, the simulation model shows that the signal emitted by the neutron star will be skewed by the solar wind from the giant star.



One theory is that the powerful neutrons of neutron stars could be FRB sources. But neutron stars' magnetism changes after a few seconds, so this is not the most accurate answer to FRB's regular repeat cycle for the past 16 days.

The CHIME / FRB team hopes to find similar explosions, to see if these repetitive cycle FRB pulses are common. The researchers are also carefully monitoring FRB 180916.J0158 + 6 while it is in operation, hoping to detect any other details that could help track their origin.

FRB has been puzzling scientists for over a decade, but CHIME's new discoveries are slowly revealing the veil of mystery surrounding this phenomenon. Although we still do not know "what" is emitting these bizarre signals, whether it is from an extraterrestrial civilization or not, but hopefully the near future, humanity will have the answer.

Refer to Vice

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