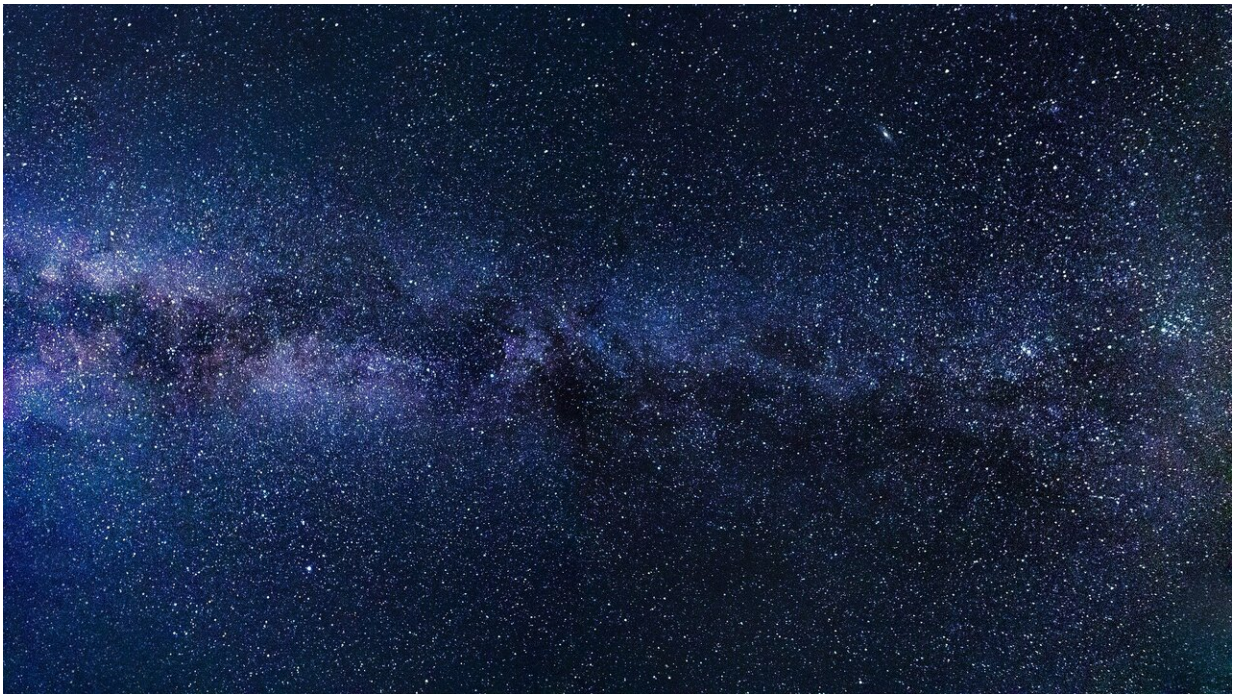


Fast radio burst with steady 16-day cycle observed

February 10 2020, by Bob Yirka



Credit: CC0 Public Domain

A large team of space scientists working in Canada has found evidence of a fast radio burst with a steady 16-day cycle. The team has published a paper describing their findings on the arXiv preprint server.

Fast radio bursts (FRBs) are, as their name suggests, short bursts of radio emissions that are detected by space scientists listening for signals from

[outer space](#). They appear randomly for a very short period of time, making them difficult to find and very hard to study. One was first observed back in 2007—since that time, several others have been observed—but only 10 of them have been found to repeat themselves. In this new effort, the researchers have observed the first instance of a repeating FRB, which repeats in a steady cycle.

Despite a lot of effort, space scientists do not know the source of FRBs, and have been developing theories—some suggest they might be nothing more than the noise created when two stars collide. Some non-professionals have suggested they are messages from aliens.

In this new effort, the researchers were studying data from the radio telescope used by the Canadian Hydrogen Intensity Mapping Experiment. When they spotted the FRB, they traced back 400 observations made using the telescope and determined that the FRB repeated in a steady, 16-day pattern. The FRB signals were observed to arrive approximately once an hour for four days and then suddenly cease—only to start up again 12 days later.

The repeating pattern suggests the source could be a [celestial body](#) of some kind orbiting around a star or another body. In such a scenario, the signals would cease when they are obstructed by the other body. But that still does not explain how a celestial body could be sending out such signals on a regular basis. Another possibility is that stellar winds might be alternately boosting or blocking signals from a body behind them. Or it could be that the source is a celestial [body](#) that is rotating.

The researchers traced the source of the FRB to a [spiral galaxy](#) approximately 500 million light-years away. They suggest future technology might be able to pinpoint which of the objects in the galaxy is sending out the FRBs and perhaps reveal how it is doing so.

More information: Periodic activity from a fast radio burst source, arXiv:2001.10275 [astro-ph.HE] arxiv.org/abs/2001.10275

© 2020 Science X Network

Citation: Fast radio burst with steady 16-day cycle observed (2020, February 10) retrieved 18 April 2024 from <https://phys.org/news/2020-02-fast-radio-steady-day.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.