

# Harvard Scientists Say Aliens May Be Using Radio Beams To Travel The Cosmos

**Thousands of civilizations could be flying on interstellar sails.**

Source: [Huffington Post](#)

Two Harvard University scientists are suggesting that mysterious [fast radio bursts](#), detected in faraway galaxies, may be evidence of aliens traveling through the cosmos.

FRBs are extremely bright flashes of radio waves that last for only a thousandth of a second and are detected by earthbound telescopes. Since the first one was observed 10 years ago, 17 have actually been reported, although scientists think there are thousands of them a day.

At first, Abraham “Avi” Loeb said, he took a conservative approach to explaining them.

“It looked like the simplest explanation would be flares from stars in the Milky Way galaxy,” said Loeb, a theoretical astrophysicist and chair of Harvard’s astronomy department.

But then “one of the FRBs was localized to reside in a small galaxy at a distance of about a billion light-years away,” Loeb told The Huffington Post. (One light-year is about 6 trillion miles.)

Essentially, that means these FRBs are coming from the edge of the universe and must be brighter than anything else we know.

In a new paper published in [The Astrophysical Journal Letters](#) this month, Loeb and Harvard physicist Manasvi Lingam say they decided to “examine the possibility that fast radio bursts originate from the activity of extragalactic civilizations.”

“Since there are many more galaxies out there than the Milky Way, it makes sense statistically that one would detect such phenomena outside the Milky Way more often rather than inside it,” Lingam told HuffPost.

While Loeb and Lingam don’t claim that FRBs definitely originate from aliens, they speculate that such phenomena could be the result of other civilizations using gigantic radio transmitters to hopscotch from one galaxy to another.

An almost planet-sized, solar-powered radio transmitter could generate enough energy to propel an interstellar light sail (like the one illustrated above), they suggest. These sails, in turn, might be sufficient to push “[about 20 times the largest cruise ships on Earth](#).” FRBs would be the leakage from such transmitters.

“Our upper bound on the number of such civilizations is 10,000 in a typical galaxy,” Lingam said. “But I’d like to reiterate that this is the maximal value. In all probability, the real value is likely to be much lower.”

Nobody on Earth has detected any interstellar light sails yet. What large radio telescopes, like the Arecibo Observatory in Puerto Rico or the Parkes Observatory in Australia, have picked up are very fast, bright flashes of energy.

For us to detect these bursts so many light-years away, Loeb said, they’d need a very bright source.

“So what we are considering in our scenario is a very narrow beam of radiation pushing on a sail, and that requires roughly the amount of energy intercepted by the Earth [from] sunlight. That’s the kind of power you need — the energy falling on the Earth from the sun,” he said.

Loeb chairs the advisory committee for the [Starshot](#) project, which seeks to send a spaceship to Alpha Centauri, a star system over four light-years from Earth. The idea would be to aim powerful laser beams from Earth at thin sails carrying more than 1,000 probes. It’s not the same as the radio waves possibly used by aliens, but then humans are still taking baby steps into space.

“I can imagine [aliens] doing what we are just starting to do now,” Loeb said.

The Harvard scientist is well aware that talking about aliens, even hypothetically, can start some eye-rolling. But he doesn’t share that bias.

“We shouldn’t be guided by prejudice when we think about what may be out there,” said Loeb.

“Many people tend to think they know the truth. They think that we are special, that maybe there is nothing out there.

“I think we should just observe and whenever we see something unusual, we should think, contemplate the possibility that it could be artificial. And there is nothing bad about that — it’s a learning experience.”

Indeed, it’s probably the essence of being a theoretical astrophysicist.

“The whole principle of science is that you collect data that can falsify an idea that you have or prove it right,” Loeb said.

Lingam acknowledges that their hypothesis is still a tad speculative.

“We have suggested a potential means of distinguishing between ‘natural’ and ‘artificial’ origin of FRBs by taking a closer look at the signals, and looking for certain distinguishable patterns,” he said.

But don’t expect a quick answer on the aliens question. “With more data expected to emerge in the coming decades, I believe that our hypothesis will be testable,” Lingam said.