

How to hide Earth from ET? Massive lasers

April 1 2016, by Mari ette Le Roux



A view of the Gulf of Mexico and US Gulf Coast at sunset from the International Space Station taken by Expedition 42 Flight Engineer Terry W. Virts, in a NASA photo obtained December 17, 2014

The fate of humanity if aliens were to discover Earth with its balmy climate and bountiful resources, has long been a concern for scientists—many of whom fear the worst.

Physicist Stephen Hawking is among those to have warned that ET and his friends may be much more intelligent than us, and may view human

beings as little more than troublesome bugs.

Now a pair of astronomers from Columbia University in New York have proposed an innovative method to hide our planet from prying extraterrestrial eyes—using massive lasers.

And it's not a joke, they say.

Alien scientists, argued David Kipping and Alex Teachey, may be trying to find habitable planets using the same technique we do—searching for a slight dip in light when a planet "transits" between the star it orbits and the telescopes watching it.

Planets do not emit their own light and, if they were visible to the naked eye, would appear as dark dots tracking across their bright stars.

But these exoplanets are too far away to see, and all our telescopes can pick up is a small decrease in the starlight emitted during transit.

If aliens spot us using this technique, Earth would be a logical target for alien settlement.

It orbits within the so-called "habitable zone"—not too close nor too far from the Sun—where the temperature is right for liquid water, the essence of life.



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In a paper published Thursday in the Monthly Notices of the Royal Astronomical Society (RAS) in London, Kipping and Teachey said Earth's Sun transits could be masked by shining huge lasers to cover the dip in light.

Strange but true

"Despite the timing, it's really not an April Fool's joke," RAS deputy executive director Robert Massey assured AFP on Friday.

"This is a serious piece of work."

Humanity's search for a planet capable of hosting life remains an academic pursuit—there is no solar system near enough to reach without time travel.



Workers check the Kepler space telescope at the Hazardous Processing Facility at Astrotech in Titusville, Florida, on February 13, 2009, in an image released by NASA

Since its launch in 2009, NASA's Kepler exoplanet-hunting space telescope has found thousands of candidates.

Astronomers have verified the existence of nearly 2,000 faraway worlds, but most of those orbiting in habitable zones have been gas giants.

"The transit method is presently the most successful planet discovery and characterisation tool at our disposal," wrote the duo.

"Other advanced civilisations would surely be aware of this technique..."

Within the wavelength spectrum of visible light, the transit signal could be masked with a monochromatic laser emitting about 30 million watts (MW) for 10 hours at a time, once a year.

One MW can power several hundred homes for an hour.

A universal cloak effective at all wavelengths, would require a much larger array of lasers with a total output of 250 MW, said the team.

"There is an ongoing debate as to whether we should advertise ourselves or hide from advanced civilisations potentially living on planets elsewhere in the Galaxy," Kipping said in a statement.

"Our work offers humanity a choice, at least for transit events, and we should think about what we want to do."

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