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EARTH'S MYSTERIOUS CORE

SOMETHING STRANGE IS GOING ON AT THE HEART OF OUR PLANET

IN THIS ISSUE

ALIEN LIFE

ALIENS COULD SOON DETECT LIFE ON EARTH, ALL THANKS TO OUR MOBILE PHONE MASTS

Only aliens with more advanced technology than us would be able to 'eavesdrop' on the signals transmitted on Earth. But apparently that's more likely than you might think

While we search for signs of life beyond Earth, radio signals 'leaked' from our mobile phone towers could be helping extra-terrestrials find us.

According to a new study, these radio signals are not currently strong enough on their own to be detectable by alien civilisations – assuming they're using the same technology as we are to find them. But if these civilisations have more advanced technology, and are looking at radiation from additional sources (such as Wi-Fi networks), we could soon be discovered by extra terrestrials in nearby star systems.

"I believe that there's every chance advanced civilisations are out there, and some may be capable of observing the human-made radio leakage coming from Earth," says Dr Nalini Heeralall-Issur, a physicist from the University of Mauritius and co-author of the study.

Published in the *Monthly Notices of the Royal Astronomical Society*, the study used data from mobile phone towers to simulate the signal leakage that could be detected from nearby stars, if the civilisations there had detection technology equivalent to the USA's Green Bank Telescope. Among them were Barnard's Star (in a system six light-years from Earth that contains potentially habitable planets), HD 95735 and Alpha Centauri A.

The researchers behind the study claim that most alien civilisations are likely to have more sensitive signal detection technology than ours. Also, as our broadband systems become more powerful, our detectability is likely to increase further.

While television transmission leakage has weakened since the advent of cable and internet TV, Earth's 'radio leakage signature' now consists of strong mobile radio signals as well as radar, digital broadcast systems, Wi-Fi networks and recently launched satellite constellations.

Despite claims that Earth has been getting increasingly 'radio quiet', the study's project leader Prof Mike Garrett from the University of Manchester said that "the integrated spectrum of billions of these devices is substantial."

Simulating the detectability of TV and digital broadcast system signals will be the next step for the researchers. According to Garrett, "Earth is already anomalously bright in the radio part of the spectrum. If the trend continues, we could become readily detectable by any advanced civilisation with the right technology.

The Green Bank Telescope, USA. If aliens around six light-years away had a device like this, they may well be able to detect the signals leaking from our mobile phone towers