

{* SECURITY *

Radio Frequency fingerprinting of aircraft ADS-B transmitters? Boffins reckon they've cracked it

More data points needed, says academic, but technique could give governments a spoofin' bad headache

Gareth Corfield Tue 10 Nov 2020 // 19:58 UTC

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A group of academics reckon they've found a way to uniquely fingerprint aeroplanes' Automatic Dependent Surveillance-Broadcast (ADS-B) tracking transmitters – though an aviation infosec boffin says more research is needed to verify the new technique.

In a paper titled "Real-World ADS-B signal recognition based on Radio Frequency Fingerprinting," three Chinese researchers describe what they said was a method of identifying unique transmitters fitted to aircraft – regardless of what identity code the equipment is broadcasting.

"We propose and design a novel RFF recognition scheme based on Contour Stellar Images and deep learning. We designed an ADS-B original signal capture and labelling method and verified this method by using a 1090MHz baseband signal collected by RTL-SDR, collecting signals from a total of 5 aircraft," wrote the researchers in their [paper](#) [PDF].

This could pose a problem for nation states hoping to disguise military and government aircraft as benign civilian traffic. Some countries, however, [take a more robust approach](#) to preventing open-source surveillance of their operations.



ADS-B is the tech that powers many popular airline flight tracking websites such as Flight Radar 24 and Flighaware, among

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