

A Spoof-Proof GPS Receiver



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Here the Dragons
Beware!



New Report Details GNSS Spoofing Denial-of-Service Attacks

March 29, 2019

By Dee Ann Divis

Report deems Russia a pioneer in GPS spoofing attacks

Russia has become the de-facto expert in GPS spoofing attacks, which it uses both internally and outside its borders.

Hostile Control of Ships via False GPS Signals: Demonstration and Detection

Jahshan Bhatti, Todd E. Humphreys

First published: 07 May 2017 | <https://doi.org/10.1002/navi.183> | Citations: 29

Read the full text

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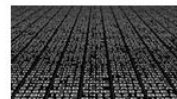
Abstract

An attacker's ability to control a maritime surface vessel by broadcasting counterfeit civil Global Positioning System (GPS) signals is



By Catalin Cimpanu for Zero Day | March 28, 2019 -- 16:56 GMT (16:56 GMT) | Topic: Security

MORE FROM CATALIN CIMPANU



Security Account details for 4 million Quid users shared on hacking

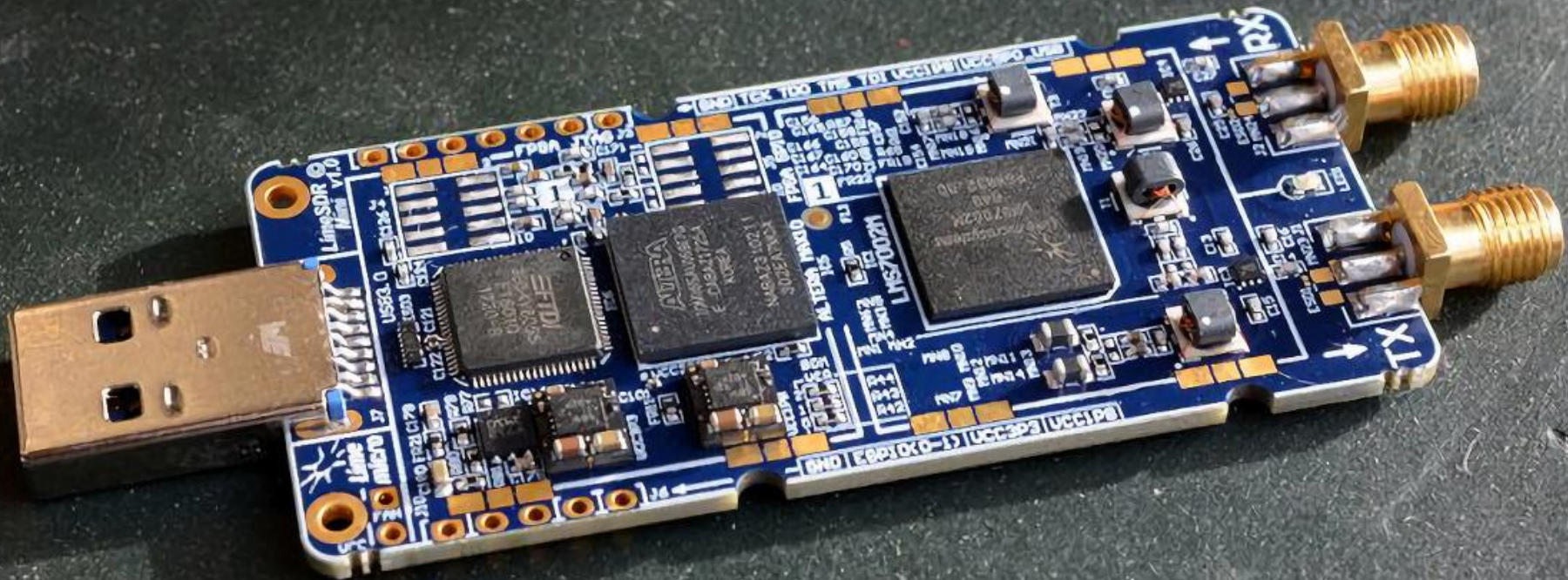
Intelligence operations are increasingly using

40310

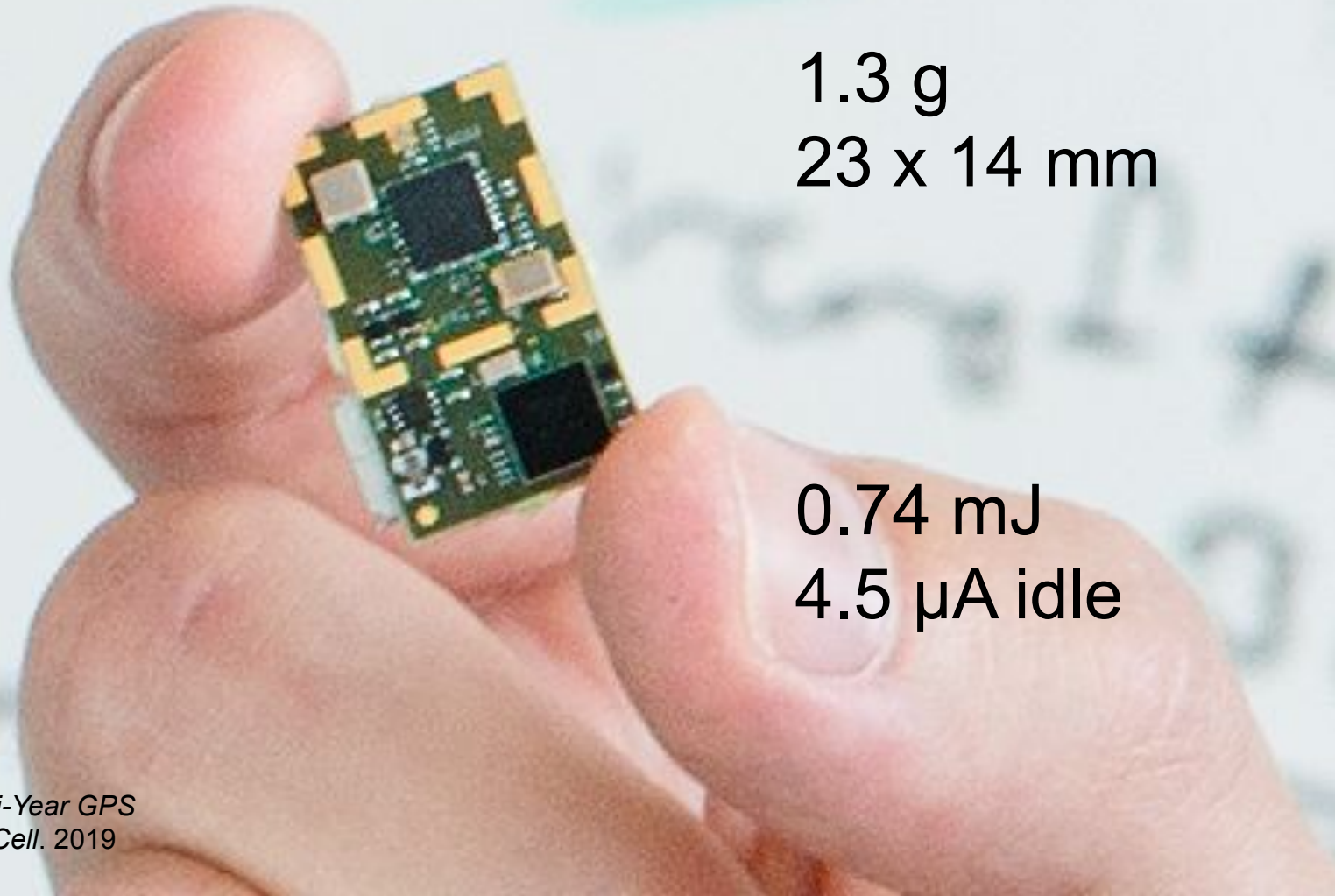
Views

Mass GPS Spoofing Attack in Black Sea?





<https://myriadrf.org/app/uploads/2017/11/limesdr-mini.jpg>



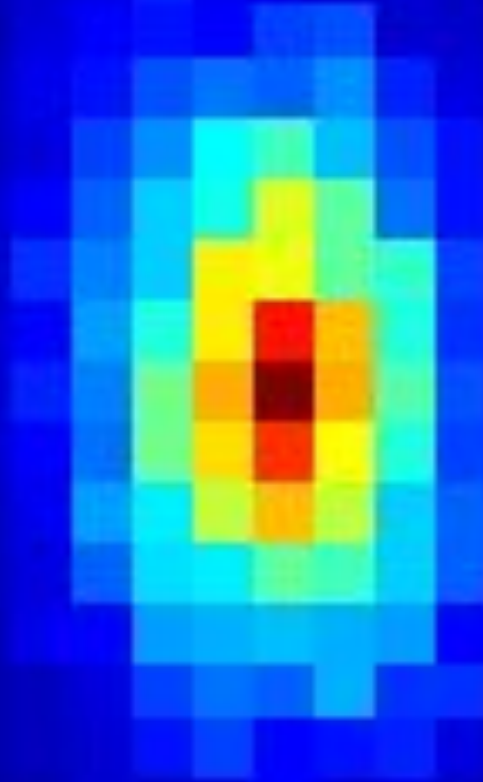
1.3 g

23 x 14 mm

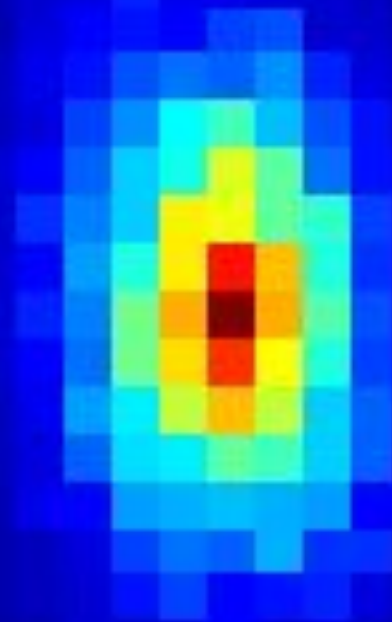
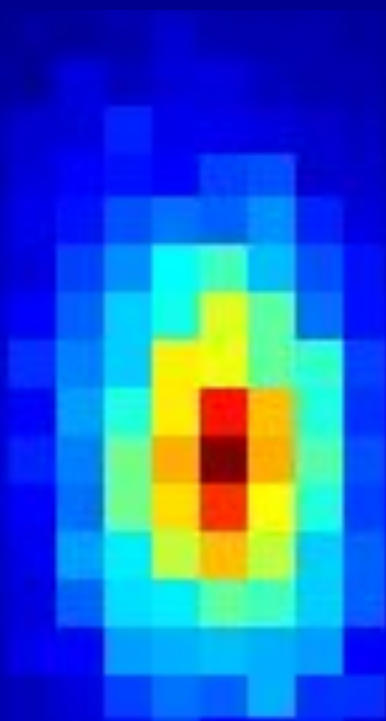
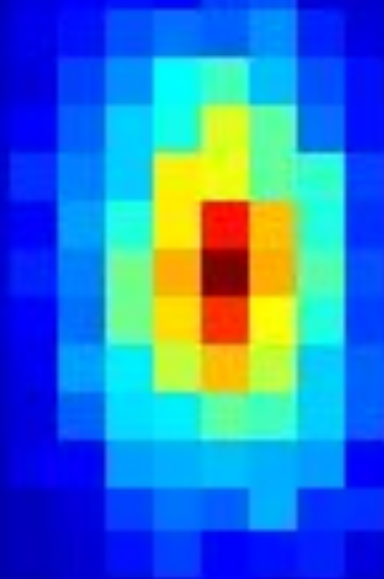
0.74 mJ

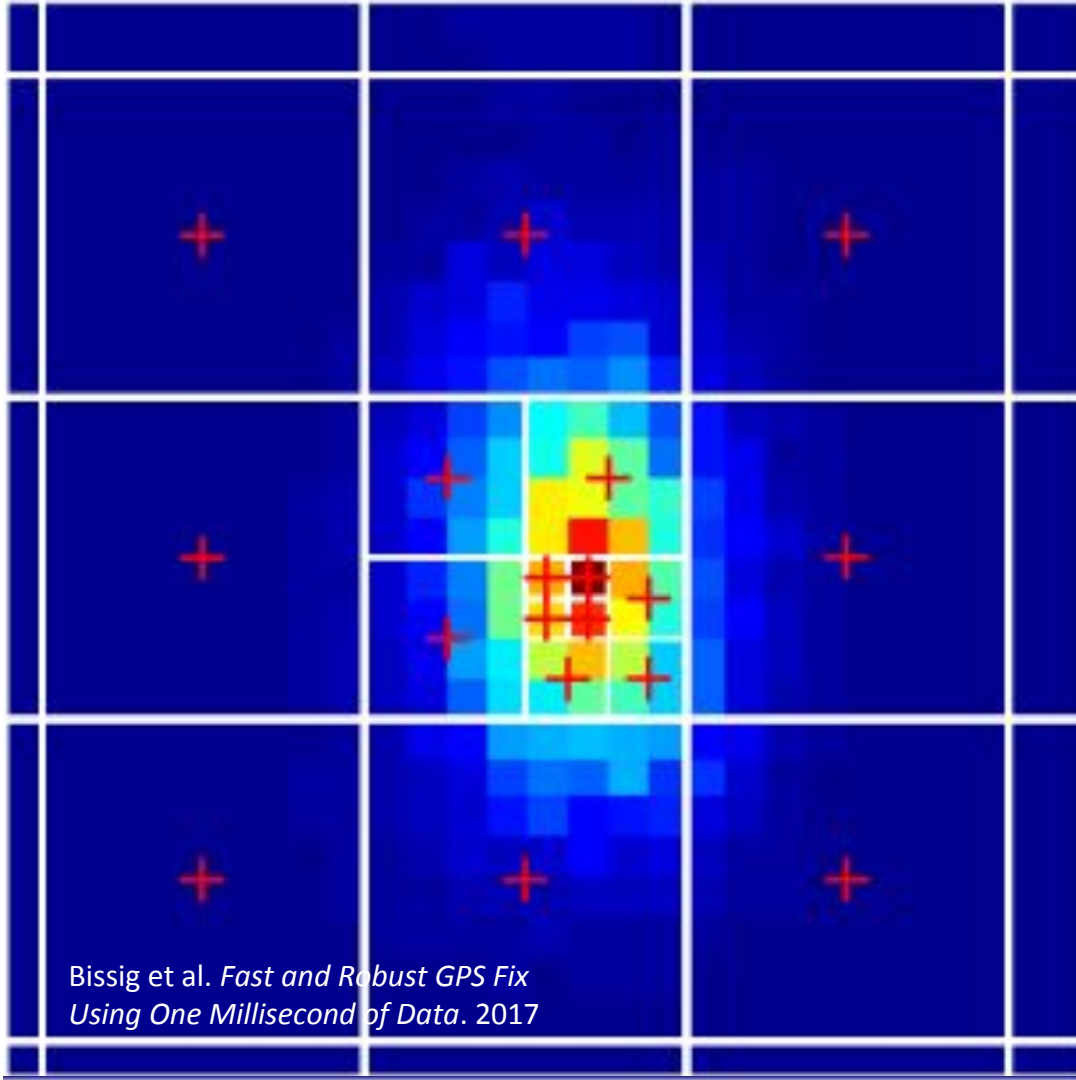
4.5 μ A idle

Collective Detection



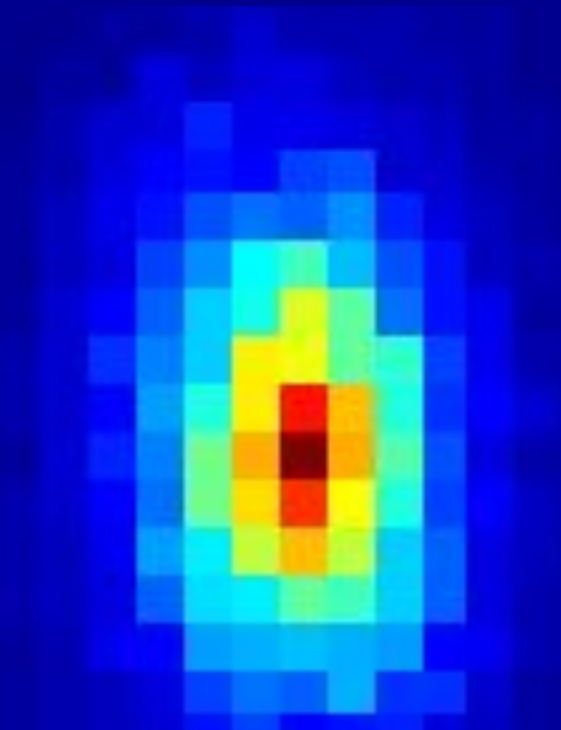
Spoofting



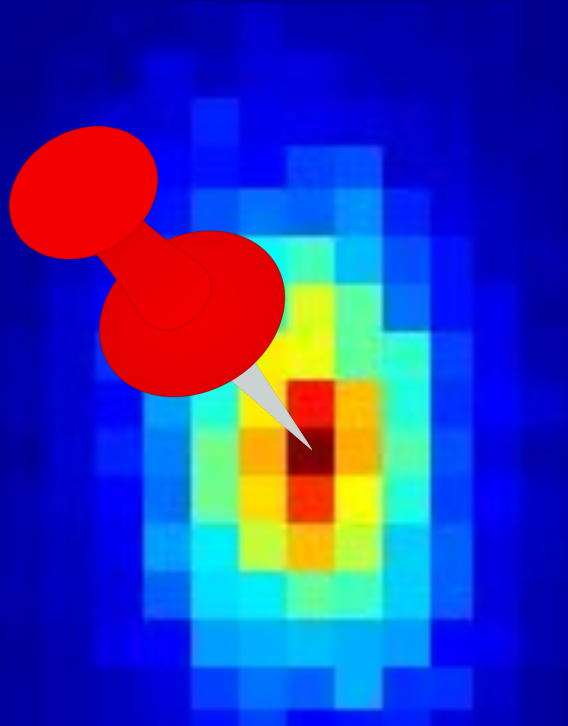


Bissig et al. *Fast and Robust GPS Fix
Using One Millisecond of Data*. 2017

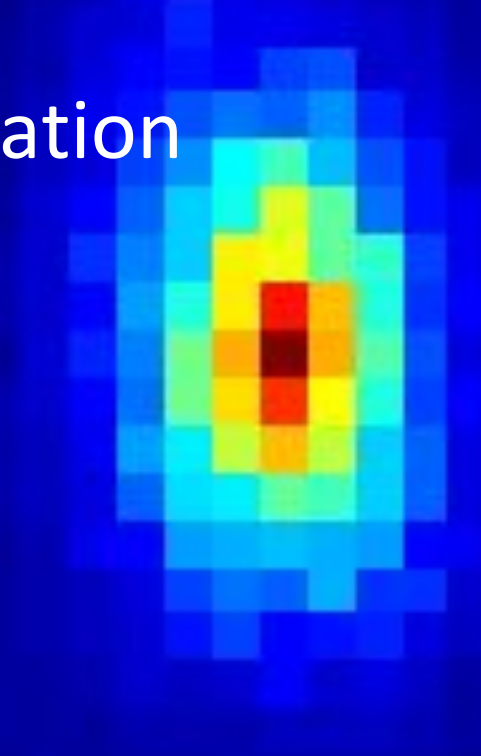
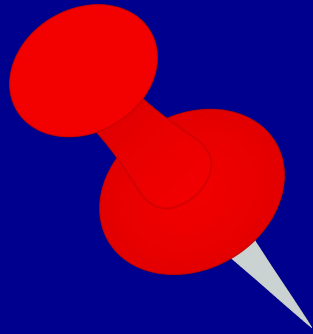
Successive Interference Cancellation



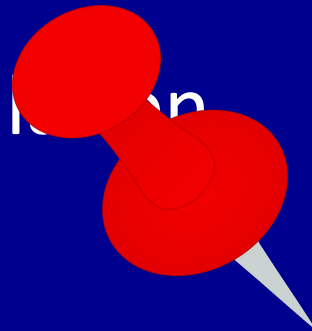
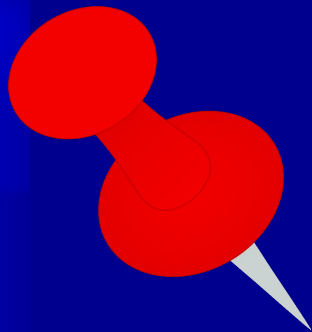
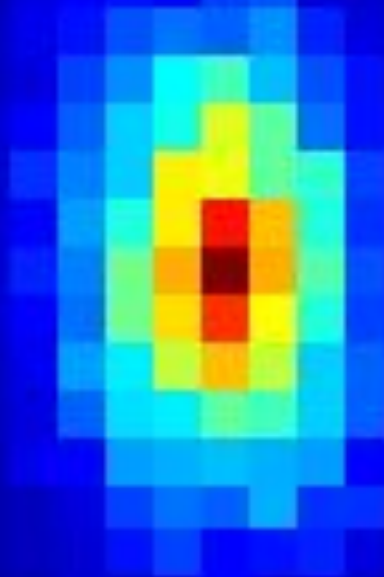
Successive Interference Cancellation



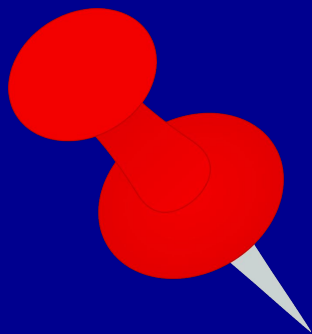
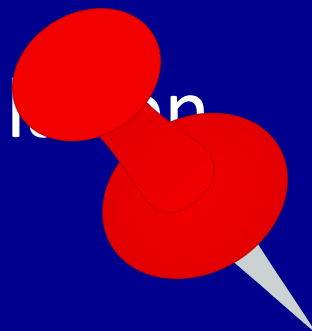
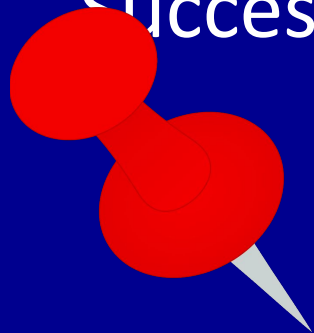
Successive Interference Cancellation



Successive Interference Cancellation



Successive Interference Cancellation



TEXBAT

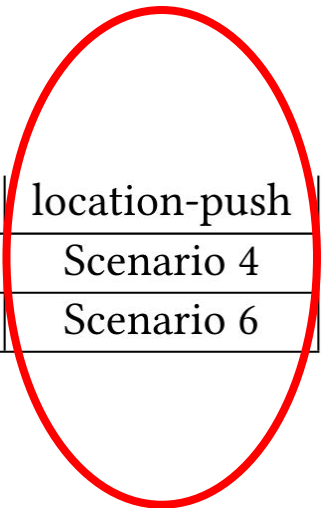
Real-World Recording

- Stationary
- Car track

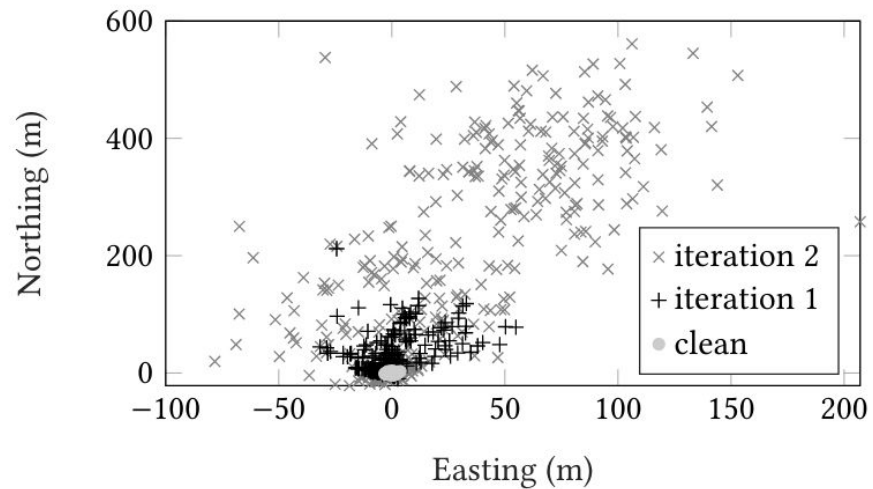
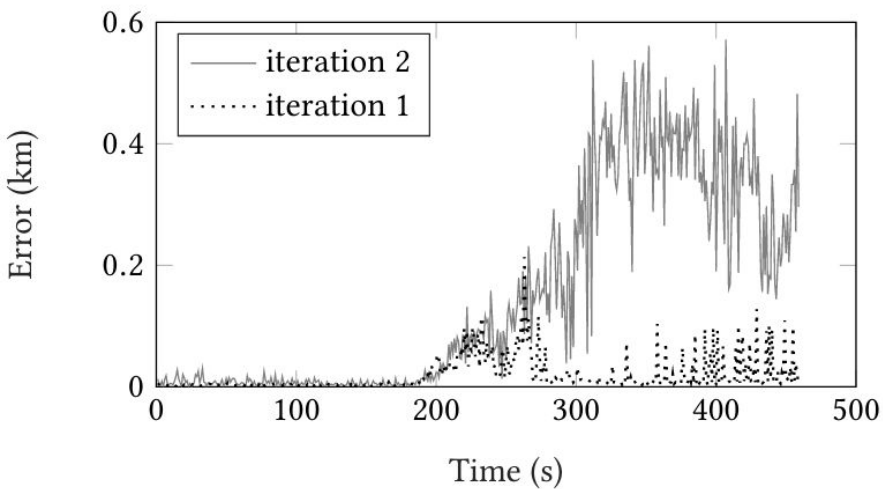


	time-push	location-push
stationary	Scenarios 1,2,3,7,8	Scenario 4
moving	Scenario 5	Scenario 6

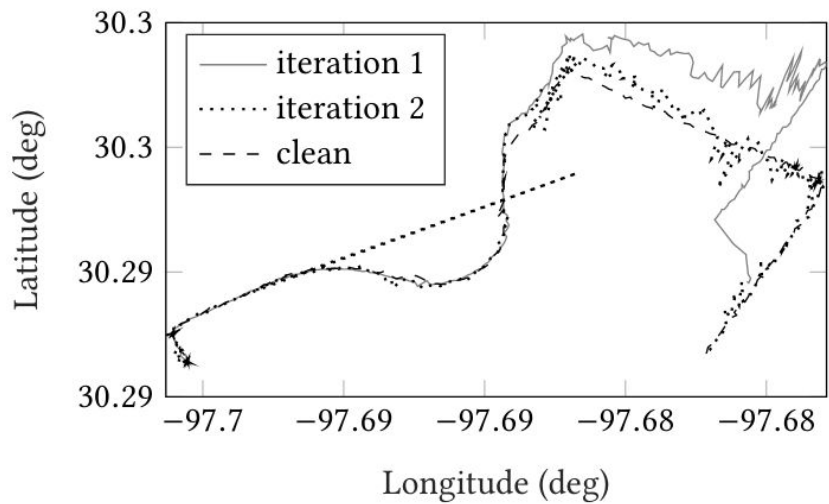
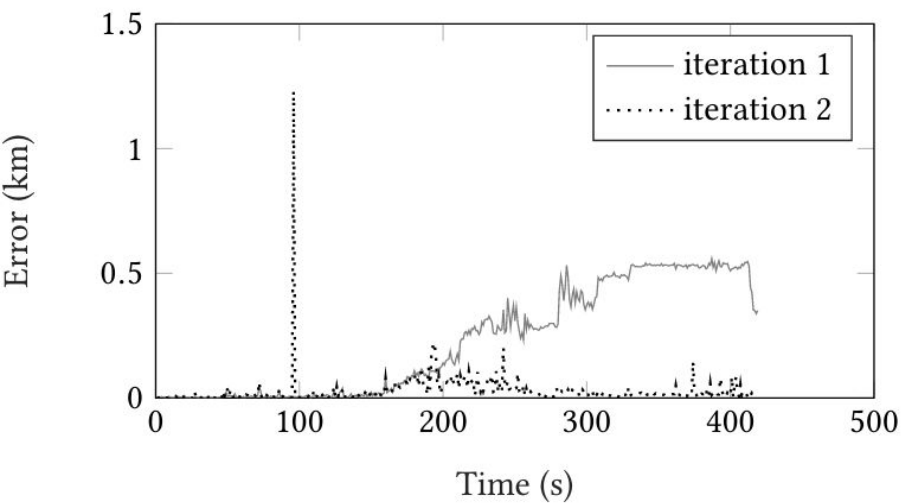
Spoofing Signals



Stationary on a rooftop



Moving Car



A Spoof-Proof GPS Receiver



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