Qeios

Peer Review

Review of: "Data Integrity vs. Inference Accuracy in Large AIS Datasets"

Fulko van Westrenen[1]

1. Delft University of Technology, Netherlands

Ship position spoofing is a serious problem that requires serious attention. Smugglers, crooks, criminals, fraudulent companies, armies, and others try to deceive other parties. The reasons may vary, and the legitimacy may be questioned. It is up to researchers to develop techniques to detect such events and try to guess what really happened with reasonable accuracy.

AIS holds two types of data: automated status collection based on instruments and data entered by the crew on board. People can make mistakes or try to deceive others. Data derived from instruments is a completely different matter. Instruments can fail, but this is often easily detected. Altering instrument data as if it were correct is something else entirely. I would expect the authors to have gone into this in detail.

A few examples to illustrate my point.

If there is a significant difference between the mean and the median for the distribution of velocity samples, there is only one conclusion: the velocity samples do not have a normal distribution. This does not surprise me. From a researcher, I have to expect better research.

The authors see that several ship positions are on land. Yes, welcome to GNSS-derived data. Please show that you have looked at this more closely.

The authors find absurd speeds in the data. Yes, we see this all the time, and the reasons can vary. Researchers using AIS data analyze the data more closely and try to correct for this. The authors should have done this too.

The authors noted that the ship’s status as reported by AIS does not match the ship’s speed or type. Yes, so what? What can you conclude from that observation?

The manuscript is currently unacceptable for publication.

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Declarations

Potential competing interests: No potential competing interests to declare.