

Interactive comment on “Experiments on magnetic interference for a portable airborne magnetometry system using a hybrid unmanned aerial vehicle (UAV)” by Jirigalatu Jirigalatu et al.

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Hello to all authors, was a pleasure to review your paper, as a survey pilot and IAGSA Member, I see your work as an outstanding experiment resource, few Items that you should consider, following Internal Copernicus checklist:

- *Does the paper address relevant scientific questions within the scope of GI? Yes
- *Does the paper present novel concepts, ideas, tools, or data? Yes, all under airborne survey operational concept.
- *Are substantial conclusions reached? The conclusion led the reader to believe that a

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second paper will be written after more tests. If that was intentional, Ok.

*Are the scientific methods and assumptions valid and clearly outlined? Yes, test stand was created and system adapted for a clean test.

*Are the results sufficient to support the interpretations and conclusions? For the initial concept of this paper yes. Author lead that more tests will be conducted thus issuing more studies.

*Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? Yes

*Do the authors give proper credit to related work and clearly indicate their own new/original contribution? At first the number of references was inconvenient for me, but can be seen as a good remark further for many others looking for a deeper research. Does the title clearly reflect the contents of the paper?

*Does the abstract provide a concise and complete summary? Asses the possibility to shorten the Abstract.

*Is the overall presentation well structured and clear? Few figures and tables outside their respective areas. PG 5 line 103 I would move the Figure 1 after the line 106, FIG 15 out of place. Make sure the final document have figures in proper places.

*Is the language fluent and precise? I did run a grammar software and found 45 itens, few plural words were missing, but overall a good grammar check where done, Few items such as Line 92 UAV's "own" magnetic, Line 200 "Apparently", Line 210 "owing to the fact that", Line 235 "It is evident that", Line 266 wires can "actually", Could be replaced or even removed. My system did recognized few non American variations of the words.

*Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated? I would recommend to add an aircraft blueprint to include locations of itens such as servos like found in Figure 3, But improve it the missing the

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elevator and rudder servos if any.

PG 2 line 47 & 73 global positioning system (GPS) Replace to GNSS the non commercial name.

In the specifications, the stall speed is with Nose “cone”, if is without, state the configuration, did any performance in stall speed was found, even by changing the items inside? Specially range of operation, it has changed? an important item for companies. And or changing the angle of the nose rod for magnetometer better position in level flight.

Fig 2, Is possible that the motors are Counter-rotating, thus having on each wing a higher Nt closest to the tip, but also might be redundant since in cruse flight those motors are off, and producing if any a small portion of electricity.

Line 123 is mentioned the wing flex, by the elliptical wing shape it might need a modification to support it but some aircrafts have an extension on wingtips by a boom, It does increase drag especially during climb, but data is received within parameters. Also mentioned that the carbon fiber line 85, is considered to install static wicks on the surfaces to compensate for it?

One of many issues I have in survey is the wire connection and wire loose in the fuselage (as mentioned) specially near connectors.

*Is the amount and quality of supplementary material appropriate? Yes

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