

Geosci. Instrum. Method. Data Syst. Discuss., referee comment RC2
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Comment on gi-2021-15

Anonymous Referee #2

Referee comment on "Analysis and reduction of the geomagnetic gradient influence on aeromagnetic compensation in a towed bird" by Zhijian Zhou et al., Geosci. Instrum. Method. Data Syst. Discuss., <https://doi.org/10.5194/gi-2021-15-RC2>, 2021

The title should be reformulated –(analysis and reduction?)

L. 39 "The traditional fixed-wing platform produces interference from the helicopter platform" – unclear statement.

L.43-44 "The geomagnetic gradient changes greatly in the large swing mode"- How large is a swing? A few meters? Does geomagnetic gradient change noticeably along this distance? Explanations are needed.

L.61 "other factors in the swing process." What do you mean?

L. 83 "fixed-wing interference is generated by the helicopter platform." –This is in contradiction with your statement in L. 56 "The interference generated by the helicopter in the towed bird is small and .. can be ignored".

L. 103-104 "is the aeromagnetic interference feature." – u is the combination of direction cosines and their derivatives. – Should be reformulated.

L.130 "helicopter towed bird system has a large change range" – What range? How large? Unclear!

L.140 "The filtered horizontal geomagnetic field obtained through band-pass filter

processing is as follows" – Optical pumping magnetometer is a total field instrument. It does NOT measure horizontal component of geomagnetic field.

L. 179 –" aeromagnetic interference and the geomagnetic field can be linearly superimposed" -However in L.38 you mentioned "there is a strong coupling relationship between the geomagnetic field and magnetic interference"

L.183-184 "Because of the small aeromagnetic interference generated by the bird, the geomagnetic gradient is larger and the geomagnetic gradient changes little before and after compensation"- Unclear! Larger than what is geomagnetic gradient?

L.210-215 Why there is a difference in south and west flight directions relative to north and east?

I have not found any comparison of Tolles Lawson coefficients obtained by means of suggested method relative to standard procedure. Does this new technique make sense?

Quality of English language is poor.