

Geosci. Instrum. Method. Data Syst. Discuss., referee comment RC1
<https://doi.org/10.5194/gi-2021-2-RC1>, 2021
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Comment on gi-2021-2 Sergio Fernández Romero

Sergio Fernández (Referee)

Referee comment on "The fluxgate magnetometer of the Low Orbit Pearl Satellites (LOPS): overview of in-flight performance and initial results" by Ye Zhu et al., Geosci. Instrum. Method. Data Syst. Discuss., <https://doi.org/10.5194/gi-2021-2-RC1>, 2021

The paper describes an interesting study on the magnetic measurements obtained in flight by the low-orbiting Pearl satellite constellation. In the first part, the manuscripts is focused on the instrument (fluxgate magnetometers) calibration techniques, both, on ground and in-flight methods. Specifically, in-flight calibration of dynamic interferences from spacecraft is covered in depth, for both AC and DC magnetic interferences. In the second part, the preliminary results of the measurements are compared with the most current geomagnetic models to verify their correlation.

The results obtained with the preliminary results are very promising. Of course, the authors know that they must continue working to improve their analysis of magnetic data and investigate the different dynamic processes and electrical currents of the ionosphere and magnetosphere. These improvements will be the subject of subsequent publications.

In my opinion the manuscript is publishable after minor revisions. Some minor errors to correct:

- Please, do not put acronyms in the abstract.
- Please, put the acronyms from the introduction, always the first time they appear and if they are to be used again.
- Line 24: correct the degree symbol and define LOPS.
- Line 45: correct the degree symbol.
- Line 65-67: you refer to the errors of the three Euler angles. Have these errors been evaluated?
- Line 185: Please, can you add references on similar studies?
- Line 228-232: This section could be better explained, step by step, adding graphs that better explain the process and indicating its references.
- Line 285: References to Figure 16 and 17 appear before reference to Figure 15. Please, renumber the figures.

