Geosci. Instrum. Method. Data Syst. Discuss.,
https://doi.org/10.5194/gi-2020-16-RC2, 2020

Geoscientific Instrumentation Methods and Data Systems Discussions

Interactive comment on "The baseline wander correction based on improved EEMD algorithm for grounded electrical source airborne transient electromagnetic signals" *by* Yuan Li et al.

Anonymous Referee #2

Received and published: 6 August 2020

The manuscript discussed a new method for baseline wander correction of grounded electrical source airborne transient electromagnetic signals. Simulated and field results reveal that this new method is practical and effective for removal of the baseline wander. I believe that the conclusions of this manuscript have wider applications for non-periodic and non-stationary signal processing. However, I believe that the authors should address the following issues before being considered for publication in this journal. 1. In section 1, the authors state that the EEMD is different from STFT and wavelet transform. Could the authors provide more theoretical results to further strengthen the contrast of difference so as to prove that EEMD method is a scale-adaptive time-domain method that is applicable to non-stationary signal processing?

2. In Section 5, many results are presented and interpreted by the authors. However, no specific conclusions can be drawn from these results. I believe a better conclusion based on the available material in the manuscript should be provided in Section 5. Could the authors revise Section 5 and give some conclusions in the revision? 3. In Figures 5, could the authors zoom in and display the UAV and receiver instrument in Figure 5a and mark the direction of the flight path in Figure 5b? 4. Figures play the positive role in understanding the result of the method. However, professional terms marked in figures need further confirmation. The interpretation of the figure needs more details. 5. The language in this manuscript should be further improved. For example, "However, the signals are the superposition of useful signals and various noise signals." This needs to be further polished. 6. "In this paper, we propose improving method EEMD-AF based on ensemble empirical mode decomposition (EEMD)". What does AF mean? As always, abbreviations should always spelt out the first time you use them. Furthermore, a space should be kept between numbers and units such as 10Hz and 0.5Hz. 7. What is Section 3.2 for? It seems like a literature review that needs to be in the introduction? Section 3.2.1 and 3.2.2 should be combined?

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