

Interactive comment on “Method for processing XCP data with improved accuracy” by Xinyue Zhang et al.

Xinyue Zhang et al.

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Received and published: 14 February 2017

To esteemed anonymous referee #2. Your comments impress us a lot. We really appreciate your time and energy for reviewing our manuscript. It is hard for us to express our grateful feeling. In fact, we have learned many things during this revision process, and such experience would be very helpful for our future study. We herewith provide our response to your comments as below: 1. Line35: The unit of electric field strength is V/m, so what's the meaning of 'nanovolts' you mentioned here? Our response: The 'nanovolts' refers to the induced electromotive force on the electrode.

2. Line46: Two essential steps are presented here, while the second one is scarcely mentioned in the text, with only one result. Our response: This paper focuses on the method for processing XCP data, so we mainly worked on theoretical research

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rather than experimental verification. We also made physical implementation and wrote another paper which has been published in Mathematical Problems in Engineering. Because we used an experimental result in the process of formula derivation, so we quoted the following related references in the paper.

Zhang, Q. S., Xiao, Z., Xinyue, Z., et al.: Influence of Expendable Current Profiler Probe on Induced Electric Field of Ocean Currents, Mathematical Problems in Engineering. 2016, Article ID 9812929, 9 pages, 2016.

3. Line57: In the text you mention 'the induced voltage direction', but the voltage is scalar and has no direction. Our response: Thanks for your suggestion, we refer to the direction of the induced electric field.

4. Line61: The meaning of the 'average velocity' is unclear, please make a clear definition. Our response: The sea has a certain depth, and different current layer with different velocity, in order to ensure the accuracy of calculation results, we define the 'average velocity' is the average of current velocity in different current layer.

Please also note the supplement to this comment:

<http://www.geosci-instrum-method-data-syst-discuss.net/gi-2016-43/gi-2016-43-AC1-supplement.pdf>

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., doi:10.5194/gi-2016-43, 2017.

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