Geosci. Instrum. Method. Data Syst. Discuss.,
doi:10.5194/gi-2016-10-AC1, 2017
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Geoscientific Instrumentation Methods and Data Systems Discussions

Interactive comment on "Application of particle swarm optimization for gravity inversion of 2.5-D sedimentary basins using variable density contrast" *by* Kunal Kishore Singh and Upendra Kumar Singh

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Received and published: 18 January 2017

January 18, 2017 To

Editor In-chief Journal of Geoscientific Instrumentation Methods and Data System

Dear Sir First of all authors would like to wish a happy and prosperous new year 2017 to you, Prof. Dr. Lev Eppelbaum, Associate Editor and both of the referees.

Authors are especially grateful to Prof. Dr. Lev Eppelbaum, Associate Editor and both referees, who have given their consensus for the publication of the manuscript after

inclusion of their suggestions. We heartily appreciate their suggestions to both of the referees for suggestions and modifications to improve our manuscript.

Here we have incorporated in manuscript point to point of both referee's comments also tried to furnish all those comments given by them. If you have still some more suggestions needs for improvement of our manuscript, we would appreciate and welcome for inclusion.

With kind regard Upendra

Reply to First Anonymous Referee

To Anonymous Referee,

Dear Sir First of all authors would like to wish a happy and prosperous new year 2017 to you. We really thankful to you for given appreciation words that encourage to authors to continue this work in future. We have improve the English and try to furnish all those comments and incorporated in the manuscript given by you accordingly which are highlighted in the manuscript.

1. In the manuscript mentioned 2.5D, it indicates the sedimentary basin having finite strike length. 2. Yes, PSO can be applied for 3D case, but we have not done in this paper and we are planning to work on 3D case in next paper. 3. We have compared the PSO results with published results mentioned in the page 7, line 139-143 and 153-159. 4. The sentence is modified and rewritten on page 1, line 16-17 and page 8, 167-169 (highlighted) 5. Gaussian noise is added to check the robustness of the technique so that method can be applied in real field data see page 6 line 119-120. 6. The profile like is drawn in Figure 8 see on page 21. 7. Authors thank to referee for reminding the application of PSO for layered structure case and we are continuously working on this and planning for next publication.

Reply to Second Referee, Dr. V. G. Gadirov

To Dr. V. G. Gadirov,

Dear Sir First of all authors would like to wish a happy and prosperous new year 2017 to you. We really thankful to you for given appreciation words that encourage to authors to continue this work in future. We would try to furnish all those comments and incorporated in the manuscript accordingly which are highlighted in the manuscript. (1) See the page 1 line 16-17. (2) Page 3 line 58-62. (3) Page 8 line 169 (4) The profile like is drawn in Figure 8 that is visible now. One of the reference is included in the manuscript mentioned which is useful for this manuscript in the text on page 2 and reference list. With kind regard Upendra

Please also note the supplement to this comment:
http://www.geosci-instrum-method-data-syst-discuss.net/gi-2016-10/gi-2016-10-AC1-supplement.pdf

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Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., doi:10.5194/gi-2016-10, 2016.