

Interactive comment on “Crustal Density Model of the Sea of Marmara: Geophysical Data Integration and 3D Gravity Modelling” by Ershad Gholamrezaie et al.

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Dear Mioara Mandea,

First of all, we would like to thank you, reviewers and all participants in the open discussion for their constructive comments and we would like to state that the format of open discussion proved to be very constructive and helpful. We particularly would like to acknowledge the help of referee Henry (reviewer #3) who not only made helpful comments but also made data available to us. He gave us access to the improved gravity data set TOPEX published by Kende et al. (2017) and to the higher resolved bathymetry of the Marmara Sea. Only thanks to this generous sharing of data we

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were able to address the main concerns of reviewer #2. We would also like to thank reviewer#2 for revising his/her recommendation towards “major revisions” instead of “reject”.

In our revised version we attempt to address all concerns raised by the reviewers and provide new results considering the full amount of accessible observations. Before we explain how we have addressed the specific concerns of the reviewers in detail, we would like to give a short summary of the additional work that went into the revised version of this manuscript:

We have revised the structural model by implementing the higher resolved bathymetry provided by referee Henry.

We tested the sensitivity of our results by calculating a series of “best-fit models” with respect to both gravity data sets and present a detailed discussion of these results. This quantitatively illustrates how robust the results are and in which range uncertainties are involved.

We have included the additional hypotheses concerning the origin of the modelled high-density bodies in the discussion considering the references suggested by the reviewers.

Please find our detailed answers to the reviewers’ comments on AC section of the discussion forum. In summary we hope the reviewers find their concerns satisfactorily addressed and that the revised manuscript can be accepted for publication.

Yours sincerely

On behalf of all co-authors,

Ershad Gholamrezaie

Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2018-113>, 2018.

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