

Interactive comment on “Evidence of magma activation beneath the Lunayyir basaltic field (Saudi Arabia) from attenuation tomography” by I. Koulakov et al.

I. Koulakov et al.

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Reply to the comments of the reviewer 1 (initial reviewer's comments are indicated with REV; our replies start with "AUTH"):

Dear Reviewer,

Thanks a lot for considering our paper and for your friendly and constructive comments. We have considered all of them and implemented to the new version of the paper. I hope you will find the paper improved.

In supplementary, we attach the corrected manuscript with figures. The changed parts

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of the text are highlighted with violet color.

Best regards,

Ivan Koulakov, on behalf of the coauthors.

Reviewer 1:

REV: This article represents an interesting and important study. At the same time, the manuscript needs in minor revisions. Many references are formal, without any description of what they give for this article. Authors have to use in Discussion the comparison with the results of tomography obtained for other volcanoes of the world. Comments: page 4-5, lines 24-29; 1-10. You listed the citations but without any their results that may be used for comparison with your study. Page 9, line 4.

AUTH: In the introduction, we have significantly expanded the overview of the previous tomography studies with short indications of the main findings (L103-116)

REV: Describe shortly the LSQP algorithm. Page 9, line 25. AUTH: We have added a couple of sentences giving the main working principle of the LSQR algorithm (L. 225-227).

REV: You have to present more detailed comparison of the results obtained by Hansen and you in Discussion. Pages 9-10. AUTH: We have added the comparison of the derived attenuation model with seismic velocity distributions by Hansen et al., 2013 and Koulakov et al., 2014 in Figure 2 (L. 251-262).

REV: You have to add the comparison with the results of tomography obtained for other volcanoes of the world (e.g., from review article of J.M. Lees, JVGR, 167 37–56, 2007). AUTH: This work is considered in the introduction as one of successful overviews presenting tomography studies of volcanoes (L. 103-105).

Please also note the supplement to this comment:

<http://www.solid-earth-discuss.net/6/C711/2014/sed-6-C711-2014-supplement.pdf>

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