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Interactive comment on "Folding pattern in the Fars province, Zagros folded belt: case study on the Karbasi and Khaftar anticlines, interior Fars, Iran" *by* Z. Maleki et al.

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Dear Topical editor and referee Thank you very much in advance for your kind cooperation and delicacy of reviewer. We have improved the paper by applying invaluable comments of the reviewers. All modifications are marked as colors in the text and our responses to reviewer comments are:

In this paper for the first time, evidence for basement activities of Nezamabad fault have presented based on investigation of folding pattern and following cases: 1. Based on structural differences that discussed in 8 and 9 parts. 2. Based on focal depth of earthquakes(fig.14), because they have got more than 10 Km depth and sedimentary

cover thickness is less than 10 Km in study area. 3. Hormoz salt that emergent to the earth surface is related to Infra –Cambrian (please see fig 5a). 4. Map patterns which they are showing the sharp variety of thickness for some formations that presented in modified version.

Reply to review-text âĂć The abstract does not reflect the content of the work. Abstract is revised.

âĂć The aim of the work is not well explicated, neither in the abstract nor in the introduction. âĂć The main aim in the abstract and introduction is rewrited and marked with turquoise highlighted.

âĂć The authors are describing reservoir-scale folds in a fold and thrust belt, so they should build balanced cross section. âĂć They have been balanced by National Iranian Oil Company (2001) as it is presented in fig 10.

âĂć The paper does not properly acknowledge related work âĂć It is modified accordingly.

âĂć Additional comments Page 2 line 3 "is easily recognized by the NW–SE trending parallel anticlines that verge to the SW." Why is this important? Most of the anticlines have followed this trend in the Zagros folded belt. However, some of the anticlines have affected from structural features. Therefore may be effects of these structural features such as main faults, salt plug has caused changes on the folding style on specific anticlines. In the study area, may be fold style of the case study anticlines have been affected by main fault in the study area. The research like this work can be showing what things can really affect the folding style in the folded belt.

âĂć Line 6. Please define "structural geometry" Re-write is done. It means "geometry of structures "

âĂć Lines 6-9. I agree, but the only way to solve the problem is to build balanced cross sections. The structural cross sections of the Karbasi anticline are balanced cross

section that prepared with National Iranian Oil Company(2001).

âĂć Lines 11-14. Is the exact repetition (copy-paste) of lines 5-8 Page 3 . Re-write is done.

âĂć Lines 13-17. As it stands, the meaning of this paragraph is that the Fars region is located in the interior Fars region. Is this correct? Yes, the study area is located in Fars province and one of the sub-basins in this region is the Interior Fars. The case study anticlines are located in this area.

âĂć Line 15. “in a 6–12km cover sequence”. What does it mean? Revised is done. It means the sedimentary cover.

âĂć Lines 19-20. False. There are several works dealing with this topic in this area. See for example: Jahani et al, 2009 (DOI: 10.1029/2008TC002418); Mouthereau et al, 2006 (doi: 10.1111/j.1365-246X.2006.02855.x); McQuarrie, 2004 (doi:10.1016/j.jsg.2003.08.009). That is right. The main aim of this paper is to determine of folding pattern anticlines in the Fars province and define structural features affected on them, specially focused on the Karbasi and Khaftar anticlines which they have been deformed by Nazamabad fault, too.

âĂć Line 22. Not clear Re-write is done.

âĂć Lines 19-21. Explain why you have selected this anticline. The Karbasi and Khaftar anticlines are case study anticlines in the interior Fars sub-basin (Fassa area). Because of the Khaftar, anticline has displaced by the Nezamabad fault in middle part with 2.5 km displacement and the Karbasi anticline has rotation toward Northwestern affect by mentioned fault, therefore has been chosen. In addition, this choice may be show that main fault has affected on the folding style in the study area.

âĂć Page 5 Line 1-8. This is not the correct approach. You are dealing with reservoirscale anticlines. The appropriate literature includes: Suppe, Medwedeff, Mitra; Erslev, Allmendinger, Poblet and McCaly; Homza and Wallace. See also the recent re-

view by Brandes and Tanner. Unfortunately, there are not subsurface data and seismic lines for preparation of more information.

âĂć Lines 17-19. Again, this is not the proper approach. If the aim of this work is to reconstruct the deep geometry (as claimed in the abstract), these analyses are useless. Instead, you should build balanced cross sections. The main aim of this paper is to determine of folding pattern anticlines in the Fars province and define structural features affected on them specially focused on the Karbasi and Khaftar anticlines in the study area. In addition, the structural cross sections of the Karbasi anticline are balanced cross section that prepared with National Iranian Oil Company.

âĂć The discussion is very short and not exhaustive. It does not discuss the topics listed in the introduction. âĂć The discussion is revised in new version. However, we can developed this part if it is necessary from viewpoints of dear reviewer.

âĂć Line 21. Why the 3D path profiles are important? These profiles can representation structure.

âĂć Check the words “known” and “estimates” (in Geological and geographical setting) These words are deleted and the sentence is revised.

âĂć Chapter 8 is the exact repetition of chapter 6 The main repetition is deleted.

Please also note the supplement to this comment:
http://www.solid-earth-discuss.net/7/C1061/2015/sed-7-C1061-2015-supplement.pdf

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Interactive comment on Solid Earth Discuss., 7, 2347, 2015.