

Interactive comment on “Tectono-thermal evolution of Oman’s Mesozoic passive continental margin under the obducting Semail Ophiolite: a case study Jebel Akhdar, Oman” by Arne Grobe et al.

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Received and published: 24 August 2018

The manuscript of Grobe et al. presents a valid contribution both in terms of knowledge of regional geology of the Oman’s passive margin and in terms of methodological development as different techniques have been integrated in a numerical modelling. However, the manuscript needs some more work before to be considered for publication. First, the figures are in general not clear. The writings are very often too small, keys for acronyms and colors are missing, and some diagrams should be added (see annotated pdf for details). Figures 3 is confusing as you mixed stratigraphic

C1

and structural information. Also tables should be revised as at the present state they are not clear. The text needs some clarifications in many points, as detailed in the annotated pdf. At first, you need to emphasize the meaning of this work in the Introduction. So far, the goals are not completely clear and you give just a very general comment about the contribution to the geology of the area. The description of methodologies is fine but the illustration of the results needs some improvements, both in the text, in the figures and in the tables. For example, the relationships between maximum temperatures and stratigraphic ages should be illustrated by a diagram and errors should be taken into account for the discussion. Thermochronology data have been modelled and results are shown in the supplement but details about modelling (e.g. which grains have been used) are lacking. Moreover, I am not convinced about the possible presence of two populations in some of the samples and, above all, to the geological meaning that is given to the oldest population. Finally, in some cases (e.g. the differences in the kinetics of maturity between north and south) I see some over-interpretation, possibly due to the fact that errors are in general not taken into account.

Please also note the supplement to this comment:

<https://www.solid-earth-discuss.net/se-2018-78/se-2018-78-RC1-supplement.pdf>

Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2018-78>, 2018.

C2