

Solid Earth Discuss., referee comment RC1
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Comment on se-2021-15

Wolfgang Siebel (Referee)

Referee comment on "Late to post-Variscan basement segmentation and differential exhumation along the SW Bohemian Massif, central Europe" by Andreas Eberts et al., Solid Earth Discuss., <https://doi.org/10.5194/se-2021-15-RC1>, 2021

Comments on manuscript: "**Late to post-Variscan differential uplift and basement segmentation along the SW Bohemian Massif, Central Europe**"

by Andreas Eberts et al. *Copernicus Publications*

General comments:

In their paper the authors use Bouguer gravity anomaly data and digital elevation models, in combination with lineament analyses, fission track thermochronology, granite outcrop pattern and metamorphic grade to provide information about the basement block segmentation of the southwestern Bohemian massif (e.g., Moldanubian unit in eastern Bavaria). Based on data analyses, a new major fault zone, the Cham fault, is postulated.

This paper is an important contribution to the fragmentation history of a Variscan basement domain. The paper is well written and well organized and the data is properly evaluated and with sound figures and the relevant literature is adequately considered. The conclusions are comprehensible and largely justified. Based on my assessment the manuscript needs not to be restructured or modified in a larger extend. It can be recommended for publication after minor modifications.

My comments are given in the annotated pdf-file. This file contains some remarks and suggestions which the authors should take into consideration in their final version.

Specific comment not made in the pdf-file:

A Bouguer anomaly map was already published and discussed by Schaarschmidt et al. (2019 Figure 15). Their figure shows clear differences in gravity anomaly between the Vorderer and Hinterer Bayerischer Wald and areas of granite accumulations and such previous results should be adequately mentioned in the present manuscript.

At line 85 and for reconsidering the subdivision of domain A (see comments in pdf file), the following reference should be considered more strongly: Propach G, Kling M, Lindhardt E, Rohrmüller J (2008) Remnants of an island arc within the Moldanubian zone of the Bavarian Forest. *Geologica Bavarica* 110: 343–377

Please also note the supplement to this comment:

<https://se.copernicus.org/preprints/se-2021-15/se-2021-15-RC1-supplement.pdf>