

Dear Johan Lissenberg and Polina Shvedko:

Thank you for your comments concerning our manuscript entitled “Whole-rock and zircon evidence for evolution of the Late Jurassic high Sr/Y Zhoujiapuzi granite, Liaodong Peninsula, North China Craton” (ID SE-2021-129). We have studied comments and suggestions carefully and have made correction. We hope meet with approval. Below the comments are response point by point and the revisions are indicated.

1. Response to comment: In the revision, you have calculated mean ages for both samples, including both core and rim data, given that these cannot be distinguished beyond analytical uncertainty (L. 261-262). Nonetheless, you write that ‘the mean value for $^{206}\text{Pb}/^{238}\text{U}$ age is higher in the light-CL core’ (L. 264), and that ‘on a single zircon, the $^{206}\text{Pb}/^{238}\text{U}$ age of the light-CL core is older than that 266 of the dark-CL rim’ (L. 265-266).

I struggle to reconcile these different statements; if cores and rims overlap within uncertainty and you treat them as a single population with an MSWD close to one, how is this compatible with different core-rime ages? Can you please clarify your reasoning on this issue and modify the manuscript accordingly?

We are sorry that some contents are not clearly stated in the MS. We try to show the relationship between the apparent age of the dark-CL rim and light-CL core, which have regular differences, but are within the error range. In the sentence “*There is a large degree of overlap between the dark-CL rim and light-CL core in terms of $^{206}\text{Pb}/^{238}\text{U}$ age although the mean value for $^{206}\text{Pb}/^{238}\text{U}$ age is higher in the light-CL core (Fig. 7e).*”, “mean value” has been replaced by "average value", which can be better distinguished from "weighted mean $^{206}\text{Pb}/^{238}\text{U}$ age" in the following text. In addition, the number of analytical spots is stated in this sentence, which can emphasize that the above description is described from the perspective of all data. After the sentence “*On a single zircon, the $^{206}\text{Pb}/^{238}\text{U}$ age of the light-CL core is older than that of the dark-CL rim (Fig. 5).*”, we have added " *but the two values are within the error range of the*

in-situ LA-ICP-MS analyses (individual spot of $\pm 3\text{--}5\%$ relative precision, Schmitz and Kuiper, 2013).", which can provide a basis for putting the data of light CL core and dark CL rim together to calculate the weighted average age in the following sentence.

The revised content is as follows:

"There is a large degree of overlap between the 29 spots of dark-CL rim and 32 spots of light-CL core in terms of $^{206}\text{Pb}/^{238}\text{U}$ age although the average value for $^{206}\text{Pb}/^{238}\text{U}$ age is higher in the 32 spots of light-CL core (Fig. 7e). On a single zircon, the $^{206}\text{Pb}/^{238}\text{U}$ age of the light-CL core is older than that of the dark-CL rim (Fig. 5), but the two values are within the error range of the in-situ LA-ICP-MS analyses (individual spot of $\pm 3\text{--}5\%$ relative precision, Schmitz and Kuiper, 2013)."

2. Response to comment: For the next revision, please add the "Correspondence to:" to the title page of the *.pdf manuscript file.

We have added the email of the corresponding author.

Correspondence: Renyu Zeng (zengrenyu@126.com)

3. Response to comment: Regarding your figure #2: for the next revision, please check if your figures containing photos require a copyright statement/image credit and add it to the figures (or captions) (https://publications.copernicus.org/for_authors/manuscript_preparation.html#figurestables -> Reproduction and reuse of figures and tables). If these figures were entirely created by the authors, there is no need to add a copyright statement or credit. In that case it is important that you confirm this explicitly by email.

All the figures in Figure 2 were entirely created by the authors.

We tried our best to improve the manuscript. We appreciate for Editors' warm work earnestly, and hope that the correction will meet with approval.

Once again, thank you very much for your comments and suggestions.

Sincerely,

Renyu Zeng