Geochronology Discuss., community comment CC1
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RC – Comment on gchron-2021-27

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Community comment on "Calcite U–Pb dating of altered ancient oceanic crust in the North Pamir, Central Asia" by Johannes Rembe et al., Geochronology Discuss., https://doi.org/10.5194/gchron-2021-27-CC1, 2021

This is a nice contribution providing an important case study of dating of Carboniferous calcite from poorly studied volcanics of the N Pamirs arc. To my knowledge, this is, perhaps, the first case where Carboniferous calcite has been dated convincingly with LA, at least in Central Asia. The paper is certainly suitable for Gchron. The data are of apparent good quality, the figures are well shaped and the structure of the manuscript is fine. In my opinion the manuscript can be accepted for publication after Minor revisions.

My general and specific comments are listed below, and I think that the authors might underline it more clearly that, on a regional scale, the early-mid-Carboniferous arc rocks are missing entirely in the South Tien-Shan and North Tarim, indicating that the southern margin of the Turkestan Ocean developed passively during the Carboniferous, while the known occurrences of the early-mid-Carboniferous arc rocks in N Pamirs and Gissar show that these rocks formed in the Paleo-Tethys Ocean, which was located to the south. Thus, the discussion on the regional implications of the new data should be, perhaps, extended with taking into consideration this new evidence that the studied north Pamirs Carboniferous sea floor volcanics are a part of the NW Pamirs arc and its western continuation in the Tajik South Tien Shan (Gissar), and the following papers describing the N Pamirs arc and its western continuation should be, perhaps, additionally cited:

Ruzhetsev SV., Pospelov II., Sukhanov AN., Tectonics of Kalaihumb-Sauksau zone of the Norther Pamir. Geotectonics 1977, №4, 68-80

Konopelko, D., Biske, Yu.S. Kullerud, K., Ganiev, I., Seltmann, R., Brownscombe, W., Mirkamalov, R., Wang, B., Safonova, I., Kotler, P., Shatov, V., Sun, M., Wong, J., 2019. Early Carboniferous metamorphism of the Neoproterozoic South Tien Shan-Karakum basement: New geochronological results from Baisun and Kyzylkum, Uzbekistan. Journal of Asian Earth Sciences 177, 275–286. https://doi.org/10.1016/j.jseaes.2019.03.025

Specific comments:

Line 63

Replace “splitic” with “spilitic”

Line 94

Replace “introduce” with “introduced“

Line 117

“In the Chinese Qimgan valley” – probably “In the Chinese part of the Qimgan valley”?

Line 147-148

Please add here again information on how many samples from how many localities have been analysed

Please add linear scale in Fig 5 a.

Please explain in fig caption what are the shaded areas in Figure D1

I hope my comments will be helpful for authors

Sincerely

Reviewer