Dear Prof. Rubatto,

Thank you for your comments and understanding regarding my situation. I have introduced the requested changes.

Kind regards,
Daniil Popov

Daniela Rubatto

Dear Dr Popov

Thanks for providing the revised version of you paper. Thanks for clarifying the error propagation procedure and for slightly improving the introduction. Although regrettable, I accept that it is currently impossible to get a real dataset to test your approach. I am satisfied that the manuscript has improved and is in principle acceptable. However there are still some minor corrections needed to clarify the language/nomenclature.

Line 45, “Apparently” is not the correct word here, better delete it.

I have rephrased this part. I also fixed the last sentence of this paragraph, which looked a bit out of context after the previous iteration.

In figure 1a, I insist that the nomenclature of the regression lines be corrected.

“isochrons” are replaced with “projections”

Line 73. In the main text do not refer to the reviewer’s name directly. Simply state that alternative approaches exist and provide a supporting reference for it (e.g. Ludwig 1998 or Vermeesch 2020).

I have cited Pieter Vermeesch’s review as if it was a paper. References to other papers in that review were to examples applying this statistical method to problems that are not directly related to my manuscript.

An isochron is a regression line in a plot where both isotopic ratios contain a non-radiogenic isotope (see also comments from reviewer) and where the slope of the line defines a unique age (as correctly

named in figure 1b). Both these conditions are not true for the regression in the TW diagrams (207/206 vs 238/206) of uncorrected ratios you use. Therefore I ask you to change the nomenclature to “regression” or another neutral term. I acknowledge that other publications use the term isochron for the TW regression, but this mistake should not be propagated.

I have changed it to “projections”, although in my opinion it is legitimate to call these lines “isochrons” (they are conceptually very similar to inverse isochrons).

Bets regards
Daniela Rubatto