

## ***Interactive comment on “P<sup>3</sup> – PetroPhysical Property Database – a global compilation of lab measured rock properties” by Kristian Bär et al.***

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We would like to thank the anonymous referee #1 very much for the valuable comments and helpful suggestions to our manuscript. In the following, we would like to address the individual comments in detail.

Comment 1, Line 28, page 8: In the following section 2.5 quality control, page 12, Line 10ff we describe in more detail how the original petrographic description is transferred into our petrographic terms. Furthermore we describe, that the petrographic description of a sample has to allow at least for an allocation of a petrographic term of rank larger or equal to 2. Therefore, measurements of samples with undefined petrography ('?') or poorly defined petrography as 'Sediment' are not included in the database.

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Additionally, the database itself contains a column to include the original petrographic description or classification 'Petrography (in detail, original)' (cf. Figure 2). In few cases, where '?' or 'Sediment' was given as petrographic term in the original reference together with more detailed description in other sections of the reference or with an exact location, which allowed to identify the geological units on geological maps, we might have allocated a rock classification reflecting this additional information. We do not document any samples or literature data which did not make it into the database due to quality control restrictions.

Comment on calculation type 2 for radiogenic heat production: Thank you very much for this valuable comment. We are currently in discussion about how to include radiogenic heat production and if we include it at all in future versions of P<sup>3</sup>. With the newest publication of Gard et al. (2019) in ESSD and their 'Global whole-rock geochemical database' with more than 1.3 Mio. entries worldwide, which also includes the calculation of the radiogenic heat production based on the geochemistry, the values included in P<sup>3</sup> might be obsolete in the future. But up to now, it is beyond us to check for double entries between P<sup>3</sup> and Gard et al. (2019) and we would leave it to the experienced researcher which database to refer to. Referring to the manual quality check of Ashwal 1987, it will always be possible, that some entries in P<sup>3</sup> are not fully correct since errors as presented here are only to be found manually and not with our semi-automatic quality control implemented. We will correct this entry and would be happy to get notice about any other obvious error by the readers and users of our database to enhance the quality of future releases of P<sup>3</sup>.

Comment on compressed database version for download: We will provide a compressed version of the P<sup>3</sup> excel version for download with the final publication. Additionally, we will keep the CSV and PDF version of the database since both file formats are more stable over longer time periods and might not suffer from changes due to newer software versions, e.g. of Excel.

Comment on QC for double entries: We only quality checked duplicate entries by doc-

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umenting both primary and secondary sources and additionally by geographic comparison of sample locations. So far, we are quite certain, that if at all, only a small number of duplicate entries might be included, e.g. where the coordinates were not given in sufficient detail in the references.

Comment on suggested future extensions and inclusions of P<sup>3</sup> and future support: The database in its current version will be permanently available and accessible via the doi and GFZ data services. The future development and extensions of the database as almost everywhere in the scientific world strongly depends on ongoing project funding and successful research proposals in the future. Funding for extensions is currently available until the end of 2022. The online portal is planned to be developed within the next four years. A research proposal for a project where this will be developed is currently under review.

We additionally would like to thank the anonymous referee #1 for pointing out some typos and sentences with problematic grammar and will change these in the final version of the manuscript.

Kind regards Kristian Bär, Thomas Reinsch, Judith Bott

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