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Peer Review

Review of: "Parameter Calibration for Johnson Cook and Preston-Tonks-Wallace Material Strength Models with Uncertainty Quantification"

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The manuscript requires major revisions even for evaluating whether this is worth publishing.

1. The literature review is very poor, and not just because of the number of literatures. The same is true about the methodology. Of its 11 pages in length, more than 7 pages are consumed by just the results. On the other hand, the literature review and methodology are covered in two and a half pages.
2. It is not clear whether the authors used a standard tool, developed a model, or improved on it to perform posterior correction. If there is none of that other than using a readily available tool, then the work barely has any novelty. The fact that it is not clearly explained (even if the model and/or the code is borrowed) and the methodology essentially boils down to “For additional details on the method, see [4].” on page 2, only worsens the case.
3. The results section, although the major part of the manuscript, is also inadequate and inefficient. What the use of Fig. 1 and Fig. 2 was in deriving the corrected parameters was not explained.
4. Figures 3-5 demand being split into subfigures (say 3a and 3b) with separate captions.
5. Figure titles should be removed.
6. Units should be consistent (Pa or MPa, and no, a log-scale is not an excuse).
7. How come the strain unit in Fig. 3-4 is (m-m^{-1}) but in Fig. 5 the unit of strain rate is s-1?
8. The units should be put inside a pair of parentheses () next to the quantity represented by the appropriate symbol. If you are using MATLAB, using the following script “$\varepsilon_\mathrm{true}$(m-m^{-1})” with the LaTeX interpreter will do the job.

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9. If there are 12 plots on each subfigure (there are two), it is not sufficient to put only 4 legends. If the rest of the information is given in the caption, one might also mention which color corresponds to which temperature (Fig. 3) and avoid the legend altogether.
10. My suggestion is to make different graphs for different temperatures for Fig. 3, thereby avoiding the repetitions. I bet the experimental plots are the same, no matter the plasticity model, JC or PWT.

Declarations

Potential competing interests: No potential competing interests to declare.