

Reviewer, #2:

General comments

The MS explains the interface of hydroPSO optimization and PEST with the PHREEQC geochemical model. This subject will have value within the scientific community.

Specific and technical comments

Other comments on the MS is on track changes and attached as a separate file. Please note the highlighted sections and compare to the original MS.

Recommendation

MS should be published subject to the attached comments on track changes. Please also note the supplement to this comment:

<https://www.geosci-model-dev-discuss.net/gmd-2017-38/gmd-2017-38-RC2-supplement.pdf>

Response: Thank you for the summary

Commented [h1]: What parameters?

Response: Please check the new version the document, in particular page 3, line 67. The parameters are surface complexation constants, log K.

Commented [h2]: See lines 33-35. Harmonize!

Response: The sentence was adapted.

Commented [h3]: Check?

Response: The sentence has been rewritten.

Commented [h4]: Harmonize with lines 43-46 of original MS

Response: The sentence has been modified.

Commented [h5]: Include line of fit

Response: Please see figure 2.

Commented [h6]: Which six parameters?

Response: The parameters are surface complexation constants, log K.

Commented [h7]: Where are equations 2, 3, 4, 5 and 6?

Response: Please check the new version the document, in particular table 1.

Finally, thank you very much for the encouraging comments. We hope the changes made to this new version of the manuscript have made clearer the link between hydroPSO and the physical experiments to the wide audience.