Review of Solid Earth Manuscript se-2019-204 Hydro-mechanical processes and their influence on the stimulation-effected volume: Observations from a decameter-scale hydraulic stimulation project by Krietsch et al.

The paper summarizes some key results of a series of stimulation tests performed at the Grimsel test site. Thanks to very comprehensive monitoring of a broad range of hydraulic and mechanical parameters this project has yielded a wealth of new results, partly published, and in this paper the authors provide a rather comprehensive overview of the results pertinent to the interplay of hydraulic and mechanical processes.

The results presented are very interesting and the discussion/conclusion is straightforward. However, I found the text in part too verbose and not always well organized. Maybe it could be condensed a bit more and the graphics cleaned up. My comments are however just minor and left at the discretion of the authors.

Some minor comments:

Page 4 Line 17-22 is not very clear, possibly wrong. The entire volume should be affected by poro-elastic stress perturbation but obviously the extent of the fluid pressure front and the poro-elastic deformation front likely differ in space and time.

Fig. 1 is not very instructive and needs to be more clear concerning shear zone position and in particular sensor locations wrt to target volumes remain rather obscure.

Fig. 2 left hand side not very clear, maybe one could reduce size of pole projection and enlarge photos.

Fig. 3 is a somewhat busy and should have a more comprehensive caption explaining what we see.

Starting with 3 Methods there are several typos, missed references etc. at least in my pdf.

Fig. 9 is very busy but the caption needs a more detailed explanation.

Fig. 12 lower part is not very clear.

The Interpretation/Discussion part is not easy to read. Not sure if all observational details need an interpretation here. Maybe it would help to focus on the key results and observations from the experiments. The schematic Figure 14 illustrating complex deformation in the ‘primary’ (?) stimulated zone is too busy. Maybe it is possible to summarize key aspects of the hydraulic and mechanic responses to the injections for the two target shear zones in two schematic diagrams.
The scientific content of the manuscript absolutely deserves publishing but I believe that the manuscript and the potential readers would benefit from some ‘polishing’ of text and figures. I hope my suggestions are useful to the authors.

Sincerely
Georg Dresen