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Interactive comment on "The seismo-hydro-mechanical behaviour during deep geothermal reservoir stimulations: open questions tackled in a decameter-scale in-situ stimulation experiment" *by* Florian Amann et al.

Anonymous Referee #1

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General comments

This is a review paper. It provides information on two aspects of hydraulic stimulation used for creating engineered geothermal systems (EGS):

I. extensive literature reviews on (i) the nature of the stimulation process and dedicated experiments on reservoir, intermediate and laboratory scale performed for enhancing low permeability of reservoir rocks; (ii) hydro-fracking experiments on reservoir, intermediate and laboratory scale performed for creating extensive fractures enabling flow

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Discussion paper

rates sufficient for extraction of relevant amounts of heat, and the associated rock mass deformation, seismic an aseismic slip, and induced seismicity.

II. A description of the scientific and experimental infrastructure in the Grimsel test site in the Swiss Alps implemented for the experiments to be performed in the In-situ Stimulation and Circulation Experiment

Part I is of great value for all present and future researchers in this field as it covers most if not all relevant work. Part II is probably intended to describe the infrastructure in a separate paper to be referenced by future papers describing and discussing the experiments currently under way and planned in the future. The value of combining these two aspects in one paper is not obvious. These are separate topics and would merit separate papers. Also, this would allow to go into more technical detail the second part. Here, it should be made more clear, which experiments are intended and which ones have been performed already. At first reading, it was a bit confusing discriminating between completed and planned experiments.

The m/s should be divided into two ones: I. the literature review. This part may stay more or less at it is; II: the description of the test site infrastructure: This would need to be revised an probably expanded for more technical detail.

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