Interactive comment on “Velocity structure and the role of fluids in the West Bohemia Seismic Zone” by C. Alexandrakis et al.

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Received and published: 26 April 2014

In this paper, the authors investigate the role of fluids in instigating microearthquakes in the West Bohemia Seismic Zone. They present a generally well-documented tomography, done with a prominent swarm of earthquakes. The double-difference method is very appropriate. The results are consciously interpreted and properly set into context. For the most part, the figures are well done. In preparing a revised manuscript, I ask that the authors consider the following comments:

p.513,l.25: What is an "experimentally defined weighting factor"? Did the authors use a previously defined one or did they define a new one for their own dataset? Please define and/or eliminate.
Clarify if the picks were done by the authors or if the picks used in the tomography are the picks from Bouchaala et al. (2013).

Please include a scale in Fig. 1. I presume that the swarm site is where the profile lines cross - please define in caption. I would also suggest a discussion of the maximum gap for the smaller events - from the figure it looks as if there may be a substantial gap of about 60° for smaller events to the south. I would also appreciate an additional inset showing a close up on the area of the swarm with some events.

The double-difference locations are effected by the centroid error. Please give some data concerning errors of the original relocation of events.

I would like an additional small figure, showing the 12 velocity models.

Please include information on starting point (e.g. A-A’) in Figure and/or caption. It is not clear where the profile starts e.g. Fig. 1.

Please include reference to the subfigures in the caption (e.g. (a) or (b) at the appropriate text).

Is it possible that the color for the vp/vs perturbation at model (a) is inverted? Please check.

I would particularly like to see a figure not with absolute numbers, but in percentage to input velocity model, particularly with regard to the smearing (c.f. Fig. 3, restoration tests). I am also missing data on ray coverage. The authors say that they show "only areas constrained by data" - how many rays does constrain these regions - and from which direction? Perhaps this information can be added to the supplementary data.

Interactive comment on Solid Earth Discuss., 6, 511, 2014.