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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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Ms Mousavi raises a good point and we thank her for posting the comment.

Models cannot be directly compared because of differences in resolution. According to to Ruzek and Horalek (2013), their model can resolve structures with a minimum size of 15km laterally and 6km vertically. The entire resolved area of our model is only slightly larger than these dimensions. Our synthetic tests show that the resolved area in our model can reliably image structures which extend in the order of 2-3km laterally and 2km vertically. Our interpretation is based on these fine-scale structures.

In order to compare the results in a general sense, we analyzed the images of the Vp/Vs ratio depth slices provided by Ruzek and Horalek as supplementary data. These

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images show an increase in Vp/Vs near Novy Kostel, however the colour scale does not allow for a precise comparison of the values. For this reason we look at the average Vp/Vs values calculated directly from the average Vp and Vs (digitized from their Figure 7). It is evident that the average Vp/Vs values are overall larger than ours, but show a similar trend towards higher values with depth.

Finally the authors also note that the Poisson Ratio at 3 km depth below station NKC shows a tendency towards increased brittleness since it has a low Poisson Ratio. This contradicts our interpretation of low brittleness in the shallow areas and higher brittleness deeper and within the focal zone. The depth they comment on is not resolved in our analysis, and therefore we cannot exclude their interpretation.

However, we note that their results can be interpreted to show the opposite conclusion, ie lower brittleness at 3km depth. Ruzek and Horalek note that the Poisson Ratio there (âL'Č0.14) is lower than the value corresponding to the "standard" Vp/Vs ratio ($\sqrt{3}$ or 1.73). However, the regional Vp/Vs ratio found by Malek et al. (2005) is 1.70. Therefore, the Poisson Ratio at 3 km depth is in fact a positive anomaly and thus has a lower relative brittleness. This interpretation fits very well with our results and will be included under the revision process.

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