

Interactive comment on “3D Seismic Traveltime Tomography Validation of a Detailed Subsurface Model: The case study of the Zancara River Basin (Cuenca, Spain)” by David Marti et al.

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General comments - The paper uses a dense traveltime refraction dataset to map lithology. Model development part of the paper is strong. Quantitative interpretation part of the paper (Fig. 6 onwards) is weak.

Specific comments - The V_p - lithology relation has been built using a series of logs. This is not wrong, just limited in its scope. Logs have a higher resolution than the V_p model. To reconcile logs with the traveltime V_p , authors have averaged the logs within a window and resampled it again. This is a good qualitative approach, not quantitative. Running average is not the same as Backus average, but this is just a minor issue.

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Authors will appreciate averaging creates uncertainty. The sense of uncertainty in quantitative interpretation is missing.

I suggest approaching quantitative interpretation in one of two ways. Either, develop a rock physics model for individual lithologies or present Fig. 7 - 9 in a probabilistic sense (what is the probability of a certain point in space to correspond to a certain lithology). Authors have everything they need for both approaches.

- All the best

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