

Interactive comment on “Cross-validation of GPS tomography models and methodological improvements using CORS network” by Hugues Brenot et al.

Anonymous Referee #2

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This paper analyzes a number of variants which influence the quality of tomographic result using five models. Radiosonde and GNSS RO data are also used to validate the tomographic result. Generally speaking, this paper is well-organized and may have some reference significance, but still has some places requires clarified. Based on this, I recommended this paper for a moderate revision.

Specific comments:

P1L28-30, I don't think this expression is proper. Yes, more observations can be obtained but with similar paths, which would increase the instability of the design matrix of tomography model.

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P6L4, what's the elevation angle mask of GNSS observation?

P6L9-13, what're the accuracies of meteorological parameters (P and T) derived from ACCESS-A weather model? What kind of interpolated method is used to obtain the corresponding parameters for the location of GPS station? What about the accuracy of the interpolated meteorological data?

P6L32-33, why the one-way residual is not considered? How much does this term matter to the tomographic result?

P7L15, I think the superscript of a left part in Eq. (5) maybe hydrostatic, but I'm not sure.

P8L6, the author says that the radio-sounding balloon is quite expensive, can you give a general value?

P10L10, what's your principle to select the horizontal size of the voxels in the inner grid? In my opinion, the size may be relatively large.

P29L8, it should be better if the authors can provide the comparison of water vapor profiles between radiosonde and different tomography models at some specific epochs, e.g. before, occurrence and after the storm.

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