

Manuscript:

Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-176, 2016 Lu, Tropospheric delay parameters from numerical weather models for multi-GNSS precise positioning

Reviewer #1:

General Comment:

The manuscript covers a study of demonstrating the improvement of the GNSS PPP solutions over ‘standard PPP’ approach in terms of reduced convergence time, overall precision, and overall reliability by taking advantage of external available tropospheric delay parameters. Though approach has been used by analysis center like SOPAC for many year for GPS only realtime epoch by epoch solutions (never formally published), the current study reported all necessary details of the theory together with the statistics of case studies in a multi-GNSS setting which is extremely challenging in its implementation. The description of the method with its reasoning of the logic behind is sound. The results and derived statistics are convincing. The overall presentation including the drawn conclusions are very clear.

Answer: Many thanks for your comments.

Specific Comments (P denotes page L denotes Line):

P2L32: Comment: the quotations in () appear unnecessary as there are many related contributions available. Single out these two sounds somewhat self-promoting.

Answer: Removed.

P9L152: Comment: the b_r in eq (1) are not verbally defined in the following text.

Answer: “ $b_{r,j}$ and b_j^s are the uncalibrated phase delays for receivers and satellites, respectively” was added

P11L185: Comment: It is unlikely that the tropospheric gradients will remain constant over 24 hour period. More realistic tropospheric gradient settings would be 4 times or at least 2 times a day. Of course the impact of using 24 hour tropospheric gradient parameters would be negligible for this study.

Answer: Thanks a lot for your comments.