

Atmos. Meas. Tech. Discuss., referee comment RC2
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Comment on amt-2021-87

Anonymous Referee #4

Referee comment on "Validation of tropospheric ties at the test setup GNSS co-location site Potsdam" by Chaiyaporn Kitpracha et al., Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2021-87-RC2>, 2021

Review of "Validation of tropospheric ties at the test setup GNSS co-location site Potsdam", by Kirpracha, Heinkelmann, Ramatschi, Balidakis, Mannel and Schuh, AMT-2021-87

GENERAL

This is an interesting article on atmospheric ties. The purpose is to find ways to reduce atmospheric delay biases, thereby improving positioning, which can potentially also improve the global reference frame. The paper is well written, almost ready for publication.

In the original pdf fig 2 and 3 lacked proper axis and curve labels. On my request via the editor the correct figures we made available by the authors. Thanks. They are OK and should substitute the figures in the manuscript uploaded.

SPECIFIC

I 6 as a antenna -> as an antenna

I 10 This sentence is not meaningful.

I 11 It is not unexpected that a radome causes a bias, that has been known for a long time. (But we know that in certain environments snow that settle on a choke ring antenna can confuse things even more.)

l 16 Many met services assimilate GNSS ZTD, but I don't know of services assimilating gradients operationally.

l 18 It takes only pressure to derive ZWD from ZTD. But remember it requires on top the average of the humidity weighted inverse temperature to derive PWV from ZWD. As you don't consider PWV later in your article, maybe you should just avoid mentioning PWV. It only becomes relevant if you start considering for example water vapour radiometers as a source of atmospheric information.

l 82 whether there is any utility in applying -> whether there is any benefit in applying

l 113 A duration of two weeks contrasts the period Jan. 30 to March 7 mentioned in line 82, and the five weeks mentioned in line 208.

l 150 significantly mitigate -> significantly reduce