

## ***Interactive comment on “Assimilation of GPS radio occultation data at DWD” by H. Anlauf et al.***

### **Anonymous Referee #1**

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The manuscript is clear and balanced, and describes the implementation of the assimilation of GPS Radio Occultations at DWD. I find the paper sufficiently well written, and I propose only minor technical corrections, listed below:

P1535, L20: GFZ RO. The authors probably mean GPS RO. Besides, I suggest that they use consistently either GPS RO or GPSRO.

P1536, L26: By choosing one single horizontal location for the tangent point, the authors are NOT modeling its drift. The procedure described is some form of optimal choice for this single location, but is neglecting the drift.

P1537, L1: The expression shown in eq. (2) is from Rueger (2002), who should be cited. The report and article cited explore whether this expression is appropriate, and find no evident objection. The actual recommendation in those sources is that, first, a modern determination from experimental data is to be encouraged, and second, that

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if this expression is used, it should be together with the inclusion of a compressibility factor in the equation of state.

P1538, L26: The issue is unclearly presented. It seems that the authors perform a check, which sometimes failed around the dateline. Was it really a CDAAC problem? If evaluated properly, a longitude of -179 and of 179 degrees are close. It seems to me that it was not a CDAAC problem. Secondly, please note that the dateline is not exactly the meridian -180.

P1543, L21: Are the final bias correction coefficients again static, or are they systematically reevaluated "from time to time"?

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Interactive comment on Atmos. Meas. Tech. Discuss., 4, 1533, 2011.

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