The study analyses the precision of GPS RO bending angles for different satellites and instruments. Six months of data from the F3C and Metop/GRAS missions are processed using the same software (CDAAC). Bending angle differences from climatology and differences between collocated profiles are analyzed. The study shows the high degree of mission independence of the GPS RO data at high altitudes. In particular interesting are the results in the lower troposphere. Differences between F3C and Metop/GRAS bending angles are related to different signal tracking depths. The GRAS receiver tracks signals at 1 kHz in RS mode (similar to IGOR OL mode). Different down-samplings suggest the use of 100 Hz sampling in the lower troposphere in future RO receivers. The paper is well written, and I recommend publication. I only have some small (minor) comments. The comments follow (page & line number).

p.2439,l.19: "... wildly fluctuating RO signals..." Maybe a different word than 'wildly' would be better here.

Agree. Changed 'wildly' to 'significantly'.

p.2441,l.20: "The calculation of bending angles performed by the CDAAC software is quite complicated and is outlined in Kuo et al. (2004) in part related to the use of PLL data." I can imagine that the derivation of bending angles is 'quite complicated'. However, I suggest to write "The calculation of bending angles performed by the CDAAC software is outlined in Kuo et al. (2004) in part related to the use of PLL data".

Agree. Changed to:
"The calculation of bending angles performed by the CDAAC software is outlined in Kuo et al. (2004) in part related to the use of PLL data".

p.2442,l.6: "Next, raw L1 and L2 excess phases are smoothed with a 3-pass Savitzky-Golay filter with 0.5 s window for L1, and a larger window for both L1 and L2." I do not understand this sentence. What is the size of the 'larger window'? If I understand correctly '3-pass' means 3 times? What is the degree of the polynomial regression?

Sorry for the confusion about the larger window. The larger window is explained in the next paragraph in the text, i.e., the larger smoothing window (used for calculation of $\alpha 4$) is determined individually for each occultation by optimally balancing the un-filtered L2 noise and the un-corrected small-scale ionospheric effects and thus minimizing the residual noise on the ionosphere-free bending angle.
Yes, '3-pass' means 3 times.
The degree of the polynomial regression is 3. The polynomial degree is now stated in the text.

This confusing sentence has been changed to:
"Next, raw excess phases are smoothed with a 3-pass Savitzky-Golay filter (sliding polynomial regression) of third degree and first order (to obtain derivative) and a 0.5 s window for L1 excess phase. Additionally, both L1 and L2 excess phases are smoothed with a larger window for calculation of ionospheric bending α_4

(described below in this paragraph)."

p.2443,l.12: “Finally, WO and GO derived bending angles are connected in one profile at the transition height determined individually for each occultation based on fluctuation of L2 signal (this height is constrained to be below 20 km).“ What is the criteria for the fluctuation of the L2 signal?

The above sentence was modified and the following text was added to describe the criteria:
"Finally, WO and GO derived bending angles are connected in one profile at a transition height which is determined individually for each occultation based on the quality of the L2 signal. Increase in noise on the raw L2 Doppler (> 6 Hz) or mean deviation between smoothed L1 and L2 (scaled by f_1 / f_2) Dopplers (> 1 Hz), whichever occurs at the higher altitude, are used to determine the transition height. If the transition height appears to be >20 km the occultation is discarded."

p.2449,l.20: “When the amplitude inside...“
‘the’ added.

p.2449,l.28: “...when the true bending angle...“
‘the’ added.

p.2451,l.8: “Figure 13 shows a histogram of STDV for 308 000 globally distributed F3C profiles with outliers removed (i.e. STDV<10 μrad). The distribution shows an interesting bimodal signature and has a mean value of 1.78 μrad. Figure 14 shows a histogram of STDV for 79 000 Metop/GRAS profiles with a unimodal distribution having a much lower mean of 1.13 μrad.“ This sounds like you remove potential F3C outliers but not potential Metop/GRAS outliers. I suspect that you apply the same criteria (STDV>10 μrad) for both. At this point another number would be interesting: the fractional number of successfully processed occultations for F3C and Metop/GRAS.

Yes, we apply the same criteria for removal of outliers for both F3C and Metop/GRAS. We modified the text by making this statement explicit and by specifying % of successfully processed occultations:
"For this six-month period, F3C and Metop/GRAS receivers tracked approximately 455,000 and 102,000 occultations. Figures 13 and 14 show histograms of STDV for F3C and Metop/GRAS. The F3C histogram has an interesting bimodal structure with two local maxima at ~0.9 and ~1.6 μrad while Metop/GRAS histogram is unimodal with one clear maximum at ~0.8 μrad. Since the mean STDV is significantly affected by the "tails" of distributions (especially for Metop/GRAS), we remove the profiles with STDV >10 μrad by considering them outliers. This results in the mean STDV of 1.78 μrad for F3C (68% processed occultations) and substantially lower mean STDV of 1.13 μrad for Metop/GRAS (77% processed occultations)."

p.2452,l.4: “...von Engeln et al. (2010)...“

corrected.

p.2452,l.23: Same as comment p.2451,l.8.

The text has been modified as follows:
"Figures 17 and 18 show histograms of SMEAN for ~308,000 F3C and ~79 000 Metop/GRAS profiles. For calculation of the mean and standard deviation we remove the occultations with |SMEAN| < 3.5 µrad by considering them outliers. For F3C, the mean and standard deviation are -0.05 and 0.46 µrad, and for Metop/GRAS −0.02 and 0.46 µrad respectively."

p.2453,l.26: “Figure 19 shows...“
removed “below”.

p.2456,l.27: Figure 22 and Figure 23 are the same.
Yes, thank you. Figure 23 has been replaced with the correct figure, shown below,