

The paper is revised and improved. The authors responded to all comments. The only remaining comment/question is about the height interval of interest 40-80 km.

From current author's response:

*In real data the corrected bending angles increase rapidly towards the surface. This means that the impact of any residual error becomes less insignificant below approximately 40 km. Furthermore, the VK94 correction assumes that the ray impact parameter/tangent height is below the ionosphere (i.e. the electron density is zero). Consequently, the main area of interest for estimation is between 40 and 80 km.*

While both statements are correct, none of them explains whether GPS RO ionosphere-corrected (to 1st and 2nd orders) bending angles are useful for detection of climate signals at 80 km.

In [Danzer et al., 2013] (cited in the paper), there is a reference to [Ringer and Healy, 2008] (not cited in the paper). A decadal climate trend, projected into bending angle space, was estimated as 1.2 and 4 mcrad at heights 30 and 26 km. At those heights, the mean bending angle should be about 300-600mcrad. At 80 km, the mean bending angle should be about 0.5mcrad. What is an expected magnitude of climate trend in the bending angle space at 80 km? Can it be detectable with GPS RO even with the 2nd order correction of large-scale ionospheric effects?

I am not requesting response to this question at this time, by leaving it at the discretion of the authors.

I recommend the paper for publication.