Atmos. Meas. Tech. Discuss., 7, C3932–C3933, 2014
www.atmos-meas-tech-discuss.net/7/C3932/2014/


Atmospheric Measurement Techniques Discussions

# *Interactive comment on* "Implementation of a quality control for Radio Occultation observations in the presence of large gradients of atmospheric refractivity" *by* L. Cucurull

**L. Cucurull**

Lidia.Cucurull@noaa.gov

Received and published: 24 November 2014

P 10489, L 8-12: As the referee indicates, "internal" rays are rays trapped in the duct while "external" rays are rays that are propagated between the emitter and the receiver (i.e. they leave the atmosphere). This will be clarified in the revised version of the manuscript.

P 10495, L25-27: A profile might have several observations with bending angle larger than 0.03 rad that verify mod_grad < 50% critical. When this happens, we select the observation with the largest bending angle within the profile. Yes, when these two



conditions are satisfied, we only assimilate above the largest bending angle. This will be clarified in the revised version of the manuscript.

Tables 1 and 2: There is a positive but small improvement. A significant improvement was not expected in an statistical sense as these changes address specific atmospheric conditions. Results are in general not statistically significant due to the short length of the parallel testing and the fact that most observations affected by SR conditions were already rejected with previous quality controls procedures.

The paper already contains 10 figures so we prefer not to add additional figures. We looked at different metrics over different latitudinal ranges. Overall, the impact was positive globally for most metrics and vertical levels.

---

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 10487, 2014.