

Comments on:

Revisiting internal gravity waves analysis using GPS RO density profiles: comparison with temperature profiles and application for wave field stability study, by Petr Pisoft et al.

I appreciate the response given by the authors to my comments.

Regarding points 1) and 2) from the response to my previous comments, I understand that the authors consider that the hydrostatic hypothesis $\delta(\rho_0 + \rho')/\delta z = -g(\rho_0 + \rho')$ is equivalent to $\delta p'/\delta z = -g\rho'$, as far as $\delta\rho_0/\delta z = -g\rho_0$ may be safely applied to any background atmosphere. I have still two points that I would like to clarify: the spectra arising from GPS RO T or density data should then be expressed in the text as “apparent” or at least derived from “apparent” vertical or horizontal wavelengths measured from slanted soundings. The second point is a question: When you state in Šácha et al. (2014), after the hydrostatic hypothesis, that “...the whole group of nonhydrostatic IGWs is filtered out”, I understand that one consequence of this is that in any GW climatology obtained from GPS RO T data, only hydrostatic and hydrostatic rotating aspect ratios could be detected. If this is correct, how could it be explained the systematic and clear hotspots from obvious orographic (non hydrostatic) origin above mountain regions, like at the southern tip of Southamerica, reported in a considerable number of papers in the last decade showing global distributions (and its variability) of GW energy?