

## ***Interactive comment on “Characterization of gravity waves in the lower ionosphere using VLF observations at Comandante Ferraz Brazilian Antarctic Station” by Emilia Correia et al.***

### **Anonymous Referee #2**

Received and published: 14 November 2019

Comment to Authors on manuscript: “Characterization of gravity waves in the lower ionosphere using VLF observations at Comandante Ferraz Brazilian Antarctic Station” by Emilia Correia et al.

Review: This is a nice piece of work which demonstrates usefulness of VLF signal in understanding the gravity waves contribution in dynamics of lower part especially D-region of the ionosphere. As a cross verifications authors also use airglow observations and this a new content in the manuscript.

In my review I followed and read the revised version of the manuscript submitted by Emilia Correia et al. The comments provided by Reviewer 1 were almost similar to my

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comments when I read the manuscript before revision.

Hence I do not give any major comments except one comment: Authors are totally silent in the manuscript on the geomagnetic condition from solar origin. Please note that activities like solar flares even of the modest C-class are known to change the D-region electron density concentration especially during daytime. Did authors considered this aspect in their analysis? It will be of significance to include the geomagnetic condition during the days of analysis presented in manuscript.

The minor comments is listed as below: [Authors to follow their revised manuscript for corrections as listed] 1. Page 2, Line 7: which is a great circle path -> with its great circle path

2. Page 2, Line 27: In the last decades -> During last decades

3. Page 4, Line 18: Earth-ground cavity -> via multiple reflections

4. Page 5, Line 4: It is used the tool developed by Torrence and Compo (1998) and including the rectification -> The tool used is developed by Torrence and Compo (1998) and includes the rectification

5. Page 13, Line 1: which is a great circle path -> with its great circle path

Final Comments: The manuscript can be accepted after addressing the comments listed above

Please also note the supplement to this comment:

<https://www.ann-geophys-discuss.net/angeo-2019-123/angeo-2019-123-RC2-supplement.pdf>

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Interactive comment on Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2019-123>, 2019.

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