

## ***Interactive comment on “Investigation of sources of gravity waves observed in the Brazilian Equatorial region on 08 April 2005” by Oluwakemi Dare-Idowu et al.***

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Referee 2, Report 1 Comments

- 1) Referee's Comments (2) Author's response (3) Author's changes in manuscript
  - (1) Page 1, line 24: reserve (2) Thank you for the correction, we agree with the referee, therefore we have corrected it as in (3) (3) “reverse”
  - (1) Page 2, line 9: was (2) Thank you for the correction, we agree with the referee, therefore we have corrected it as in (3) (3) “were”
  - (1) Page 2, line 12: was (2) Thank you for the correction, we agree with the referee,  
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therefore we have corrected it as in (3) (3) “were”

(1) Page 3, line 10: transmitting (2) Here, we meant that when a meteor enters the Earth's atmosphere, it vaporizes rapidly while leaving behind a trail of ionized gas along its travel path. This trail would in turn be detected by the radar. We revised this as in (3) (3) “This instrument detects the trail left behind by vaporized meteors, determines the angle-of-arrival by using the phase difference between the receiving antennas, then measures the radial velocity by using the derivation of the speed and direction of the atmospheric winds carrying the meteor trail at a specified altitude. Further detail about the radar has been published in (e.g., Hocking et al., 2001; Egito et al., 2018; Paulino et al., 2015)”

(1) Page 3, line 22: OLAP (2) Thank you for the correction, we meant OLAP to mean the acronym for “Observatorio de Luminescencia Atmosferica de Paraiba”. We have changed this in the manuscript as in (3). (3) “Observatorio de Luminescencia Atmosferica de Paraiba”

(1) Page 4, line 5: was (2) Thank you for the correction, we agree with the referee, therefore we have corrected it as in (3) (3) “were”

(1) Page 6, line 15: Ray tracing these distinct GWs back in time from the location of observation in the OH airglow layer to the possible point of generation in the lower troposphere, we show the following results (2) Thank you for pointing this out, we meant that we traced the 5 gravity waves that we observed to their source points using the reverse ray tracing technique and we presented the following tracing-results. For clarity, we have revised the sentence in the manuscript as in (3) (3) “Using the reverse ray tracing technique to back trace these gravity waves to their source of generation, we present the follow results of the RRT analysis”

(1) Page 7, line 7: OLAP (2) Thank you for the correction, we meant OLAP to mean the acronym for “Observatorio de Luminescencia Atmosferica de Paraiba”. We have changed this in the manuscript as in (3). (3) “Observatorio de Luminescencia Atmos-

ferica de Paraiba”

(1) Page 7, line 13: on par (2) We meant that the gravity waves propagated through a similar pathway when modeled through the atmospheric winds and the HWM-14 winds (3) “Even though, the HWM-14 winds and zero winds are not equal, the gravity waves propagated through a similar path through the two winds”

(1) Page 12, line 2: OLAP (2) Thank you for the correction, we meant OLAP to mean the acronym for “Observatorio de Luminescencia Atmosferica de Paraiba”. We have changed this in the manuscript as in (3). (3) “Observatorio de Luminescencia Atmosferica de Paraiba”

(1) Page 13, line 10: below equation (2) Thank you for the correction. Here, we were making reference to the equation 3 that was written below. We have rewritten it in the manuscript for the sake of clarity as in (3) (3) “can be described by equation 3 written below”

(1) Page 15, line 5: signifies (2) Thank you, we have corrected this grammatical error in the manuscripts as in (3) (3) “signify”

(1) Page 17, line 2: OLAP (2) Thank you for the correction, we meant OLAP to mean the acronym for “Observatorio de Luminescencia Atmosferica de Paraiba”. We have changed this in the manuscript as in (3). (3) “Observatorio de Luminescencia Atmosferica de Paraiba”

(1) Page 17, line 9: unswerving (2) Thank you for this correction, we have reworded this as in (3) (3) “strong financial support”

(1) Page 20, line 11: Egito, Fabio & Arlen Buriti, Ricardo & Medeiros, A & Takahashi, Hisao. (2018). (2) Thank you, we placed this reference wrongly. We have corrected it in the manuscript.

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