

Interactive comment on “Multipoint Observations of Compressional Pc5 Pulsations in the Dayside Magnetosphere and Corresponding Particle Signatures” by Galina Korotova et al.

Anonymous Referee #2

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This paper uses field and particle measurements from GOES and Van Allen Probes to conduct a detailed exploration of dayside compressional waves observed during the geomagnetic storm of January 1, 2016.

This work examines latitudinal wave structure in terms of in-situ measurements, and demonstrate meridional oscillations ("sloshing") of the equatorial node about the equator in terms of frequency doubling observed in both the fields and particle signatures. The authors examine possible generation mechanisms for the compressional waves, and provide evidence that a mirror-mode instability is responsible for their generation.

Overall, I find the paper to be clear and well-written, and suggest only a few minor

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revisions for publication.

- Line 58: "They have several Re wavelengths". Suggest "The have wavelengths of several R_E "
- Line 108: please define what you mean by "mode of the waves" and "nodal structure". Are we referring to azimuthal mode structure and latitudinal node structure? Or does "mode" refer to, e.g., compressional vs transverse waves?
- Line 138: since solar wind observations have not yet been introduced as a figure, suggest removing the words "(not shown)".
- Lines 163 et seq, and Figure 4. Please describe how the solar wind values are lagged. Is this a simple ballistic propagation estimation, a best fit estimation, or are propagation techniques such as those used in producing OMNI solar wind data used?
- Line 234: "min" -> "minute"
- Line 282: remove spurious period (".") between words "distribution" and "peak".
- Line 359: "Therefore, we conclude like many previous researchers that the...". Please provide citations for previous conclusions, or remove words "like many previous researchers".
- Lines 379 et seq. HOPE, EMFISIS, and RBSPICE contributions should be noted and described in Section 2, "Resources".

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