

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

**Galina Korotova et al.**

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Dear Referee 2, Thank you very much for your comments and corrections. We have adopted all them. Enclosed, please find our replies to your remarks.

Line 58: "They have several Re wavelengths". Suggest "The have wavelengths of several  $R_E$ " – We corrected the sentence: They have wavelengths of several Earth radii.

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

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"mode" refer to, e.g., compressional vs transverse waves? – We changed the sentence as follows: We investigate the type of pulsation (compressional versus transverse), their harmonic mode, and their latitudinal nodal structure.

Line 138: since solar wind observations have not yet been introduced as a figure, suggest removing the words "(not shown)". We now show the solar wind observations in the final version of the paper.

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? –

To determine the lag time between the Wind and GOES-15 observations we related individual magnetosphere compressions to corresponding dynamic pressure variations. The good correspondence of GOES magnetic field enhancements to solar wind dynamic pressure pulses at the beginning and the end of the interval facilitated this task. Additionally, we confirmed these empirically derived lag times with simple ballistic estimates based on the solar wind velocity and the distance of Wind from Earth. Finally, we confirmed our estimates by examining the OMNI parameters.

Line 234: "min" -> "minute" – We changed min to minute

Line 282: remove spurious period (".") between words "distribution" and "peak". We removed period between words distribution and peak. The figure confirms that pitch angle distributions

Line 359: "Therefore, we conclude like many previous researchers that the...". Please provide citations for previous conclusions, or remove words "like many previous researchers". – We changed the sentence: Therefore, we conclude that the compressional Pc5 pulsations were excited by processes internal to the magnetosphere.

Lines 379 et seq. HOPE, EMFISIS, and RBSPICE contributions should be noted and described in Section 2, "Resources". We added additional descriptions of the RBSP

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instruments. This paper employs observations of the most abundant ion components as well as electrons, over the 0.001–50 keV energy range of the core plasma populations from the HOPE instrument, populations of 20–4000 keV ion and electrons from the MagEIS instrument [Blake et al., 2013] in the Energetic Particle, Composition, and Thermal (ECT) suite [Spence et al., 2013], fluxes of ions over the energy range from 20 keV to 1 MeV and electrons over the energy range 25 keV to 1 MeV (RBSPICE) [Mitchell et al., 2013] in conjunction with observations from the magnetometer in the Electric and Magnetic Field Instrument Suite and Integrated Science suite (EMFISIS) [Kletzing et al., 2013], and the Electric Field and Waves (EFW) [Wygant et al., 2013] instrument. We examine electric and magnetic field measurements with 11 s and 4 s time resolution, respectively, and differential particle flux observations with  $\sim 11$  s (spin period) time resolution.

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