



HAL
open science

Correction to “ULF wave identification in the magnetosheath: The k-filtering technique applied to Cluster II data”

F. Sahraoui, Jean-Louis Pinçon, G. Belmont, L. Rezeau, N. Cornilleau-Wehrin, P. Robert, L. Mellul, J.M. Bosqued, A. Balogh, P. Canu, et al.

► To cite this version:

F. Sahraoui, Jean-Louis Pinçon, G. Belmont, L. Rezeau, N. Cornilleau-Wehrin, et al.. Correction to “ULF wave identification in the magnetosheath: The k-filtering technique applied to Cluster II data”. *Journal of Geophysical Research Space Physics*, 2004, 109 (4), pp.A04222. 10.1029/2004JA010469 . hal-00153151

HAL Id: hal-00153151

<https://hal.science/hal-00153151>

Submitted on 25 Jan 2016

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Correction to “ULF wave identification in the magnetosheath: The k-filtering technique applied to Cluster II data”

F. Sahraoui, J. L. Pinçon, G. Belmont, L. Rezeau, N. Cornilleau-Wehrlin, P. Robert, L. Mellul, J. M. Bosqued, A. Balogh, P. Canu, and G. Chanteur

Received 10 March 2004; accepted 16 March 2004; published 24 April 2004.

INDEX TERMS: 9900 Corrections

Citation: Sahraoui, F., et al. (2004), Correction to “ULF wave identification in the magnetosheath: The k-filtering technique applied to Cluster II data,” *J. Geophys. Res.*, *109*, A04222, doi:10.1029/2004JA010469.

[1] In the results presented in “ULF wave identification in the magnetosheath: The k-filtering technique applied to Cluster II data” by Sahraoui et al. (*Journal of Geophysical Research*, *108*(A9), 1335, doi:10.1029/2002JA009587, 2003), there is an error in the matrix transformation from the GSE frame to the MFA (Magnetic Field-Aligned) one: the z axis of the adopted frame was not really aligned with the local magnetic field. The MFA frame has in fact to be corrected with respect to the old one by the following angles between the axes: $(\mathbf{e}_x, \mathbf{e}'_x) = 3^\circ$, $(\mathbf{e}_y, \mathbf{e}'_y) = -179^\circ$ and $(\mathbf{e}_z, \mathbf{e}'_z) = 167^\circ$. Because of this angle shift, some of the characteristics of the identified waves are slightly modified. This concerns particularly the propagation angles with

respect to \mathbf{B}_0 . In the figure below, which is to be compared with Figure 7a in the original paper, we illustrate such a modification concerning the dominant mirror mode previously identified: the modulus of the wave vector remains unchanged $k \approx 0.012$ rd/km; however, its direction is now 80° with respect to \mathbf{B}_0 instead of 62° given previously. Nevertheless, all the main physical conclusions brought by the paper (mixture of the LF linear modes with the predominance of the mirror mode, importance of the Doppler shift, ...) remain fully valid. The error in the rotation matrix was discovered thanks to a comparative study done on the same data by S. Walker and M. A. Balikhin, to whom we are grateful.

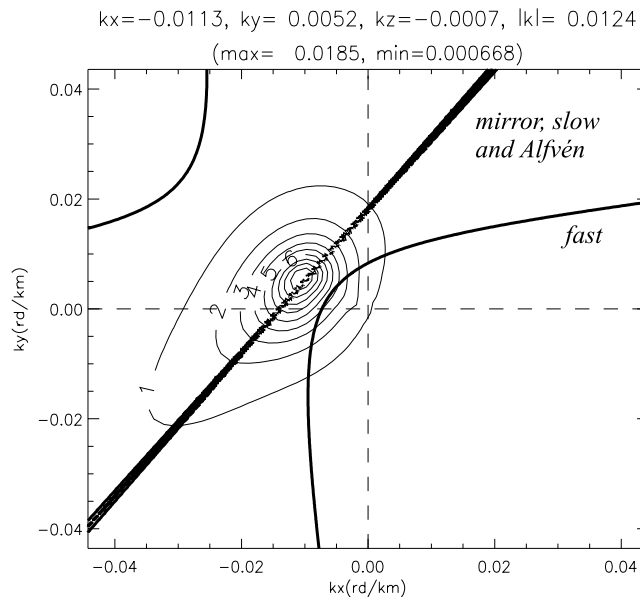


Figure 7. See color version of this figure in the HTML.