The Angular Distribution of Lower Band Chorus Waves Near Plasmaspheric Plumes

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Text describing Figure S1.

Text describing plume list files ‘rbsp-a_plume_list.txt’ and ‘rbsp-b_plume_list.txt’.

Additional Supporting Information (Files uploaded separately)

Figure S1 showing the distribution of the azimuthal wave vector angle, \(\phi_k\), for \(\theta_k > \theta_G\) and \(30^\circ < \theta_k < \theta_G\) for cases both East and West of the plume boundary.

Text files containing list of plumes used in this study, ‘rbsp-a_plume_list.txt’ and ‘rbsp-b_plume_list.txt’.

Figure S1.

Figure with additional details of the distribution of the azimuthal wave vector angle, \(\phi_k\), for observations (a) West of the plume and \(\theta_k > \theta_G\), (b) West of the plume and \(30^\circ < \theta_k < \theta_G\), (c) East of the plume and \(\theta_k > \theta_G\), and (d) East of the plume and \(30^\circ < \theta_k < \theta_G\), where
\( \theta_G \) is the Gendrin angle. It can be seen that for observations East of the plume, the Eastwards shift in \( \phi_k \) is most apparent for waves propagating with \( \theta_k > \theta_G \).

**Text files ‘rbsp-a_plume_list.txt’ and ‘rbsp-b_plume_list.txt’**

Text files ‘rbsp-a_plume_list.txt’ and ‘rbsp-b_plume_list.txt’ contain the list of plasmaspheric plume density structures identified in Van Allen Probe A and Van Allen Probes B data, respectively. The files contain the timestamp of the boundary where the spacecraft enter the plume, followed by the timestamp of the boundary where the spacecraft exit the plume.
$0.00 < |\Delta MLT| < 0.05$

$0.05 < |\Delta MLT| < 0.10$

$0.10 < |\Delta MLT| < 0.15$

$0.15 < |\Delta MLT| < 0.20$

$0.20 < |\Delta MLT| < 0.25$

$0.25 < |\Delta MLT| < 0.30$

$0.30 < |\Delta MLT| < 0.35$

$0.35 < |\Delta MLT| < 0.40$

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$\theta_k > \theta_G$

West of plume

$\Delta MLT < 0$

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$30^\circ < \theta_k < \theta_G$

West of plume

$\Delta MLT < 0$

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$\theta_k > \theta_G$

East of plume

$\Delta MLT > 0$

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$30^\circ < \theta_k < \theta_G$

East of plume

$\Delta MLT > 0$