Geophysical Research Abstracts,
Vol. 11, EGU2009-2325, 2009
EGU General Assembly 2009

Spatial intensity distribution of low-frequency magnetic field oscillations in Venus' plasma environment

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Our contribution treats the intensity distribution of magnetic field oscillations in the space plasma environment of Venus. Therefor, we have analysed magnetic field data from April 2006 to December 2007 sampled by the magnetometer on board the Venus Express (VEX) spacecraft. For the first time VEX provides data of the low-altitude region near the terminator and the mid-magnetotail region. We present the spatial intensity distribution for the frequency range from 20 to 500 mHz. In the dayside magnetosheath we observe the highest local intensities and at the terminator a drop of the intensity.
For a more detailed analysis we adopt an analytical streamline model to describe the plasma flow around Venus. By means of this simple model one can display the change in intensity along the streamlines. It is assumed that the plasma waves which are generated in the vicinity of the bow shock are convected downstream with the flow due to its superalfvénic velocity. Hence, it is possible to make an estimation of the intensity absorption along the streamlines. We apply a mathematical model to describe the absorption process and discuss possible absorption mechanisms.