



ULF WAVES AT VENUS : VENUS EXPRESS OBSERVATIONS

Authors

[1] E. ECHER, [2] M. FRANZ, [3] A. M. S. FRANCO, [3] M. BOLZAN,
[2] I. DE OLIVEIRA, [1] J. C. M. C. NETO

Affiliation

[1] NATIONAL INSTITUTE FOR SPACE RESEARCH, SAO JOSE DOS CAMPOS, BRAZIL
[2] MAX PLANCK INSTITUTE FOR SOLAR SYSTEM RESEARCH, GOTTINGEN, GERMANY
[3] FEDERAL UNIVERSITY OF JATAI, JATAI, BRAZIL

Abstract

Plasma waves in the Ultra Low Frequency (ULF) range (below 30 Hz) are very important in the solar wind planetary magnetosphere interactions. For induced magnetospheres such as Mars and Venus they can have important role on planetary atmospheric evolution, through ion-particle interaction mechanisms leading to extraction of atmospheric ions along the planet history. In this work we presented results from statistical studies of ULF wave activity around Venus space environment. Plasma and magnetic field data from Venus Express entire mission are used. A few selected examples of wave occurrence during VEX orbits are shown. Using both plasma and magnetic field data, the wave modes are identified. The distribution of their occurrence - alfvénic, mirror mode, fast and slow modes around Venus environment are shown. This distribution is further studied for different solar cycle and solar wind pressure conditions. Further the correlation lengths of ULF waves for different solar wind pressure and solar cycle conditions were computed and are presented.