Diurnal, Seasonal and Annual variation of Whistlers and VLF Emissions Over At Low Latitude Varanasi

R. P. Patel[1], A. K. Singh[2] and R. P. Singh[2]
[1]*Departent of Physics, M. M. H. P. G. College, Ghaziabad-201 009 (U.P.), India*
[2]*Atmospheric Res. Lab., Physics Department, Banaras Hindu University, varaasi-221 005 (U.P.), India*

In this paper, we present the statistical analysis of whistlers and VLF emissions (such as chorus, hiss, triggered etc.) including diurnal, monthly, seasonal, and annual variation with K_P – dependence were investigated based on VLF data observed at Varanasi (Geomag. Lat. = 14^0 $55^/$ N, Long. = 154^0 E, L = 1.07) during a ten year span (1990 to 1999). It is found that the whistlers and VLF emissions occur at low latitude exhibits a maximum in winter period. The activity of whistler mode wave is variable depending upon geomagnetic latitude, the possibility of whistlers occur is maximum at high latitude in comparison to low latitude. The rate of whistler occurrence at lower latitude stations is normally quite low but is enhanced during the period of magnetic activity. We also tried to present the variation of electron density and total electron content in a flux tube with magnetic activity. The occurrence probability increases with increasing a daily sum of K_P – index.