Calibration of the VLF Signal of 18.2 kHz VTX Station by a Receiver in Malda

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One of the most important application of the VLF signals are it gives the important information about the lithosphere-ionosphere coupling. Again it is already recognized that the ionosphere is very sensitive to seismic effects and we may use the detection of ionospheric perturbations associated with earthquake for earthquake prediction. In this paper we present the result of the monitoring of the VLF signals collected in Malda branch of ICSP, located in Malda, West Bengal, for four years (2005, 2007, 2008, 2009) and we tried to find out the co-relations, if any, between the ionospheric activities and the earthquakes. Here we use that VLF signals which are transmitted from the VTX station (18.2 KHz), located near Vijayanarayanam in Tamilnadu. To find out the co-relation of the ionospheric activities with the seismic events such as earthquake, first we have to understand what the average signal throughout the year. For this we plot the socalled Standardized calibration curve using the four years data. Here we use total 481 no. of data. To establish the co-relation between the ionospheric activities and the seismic events, we use the data of the year 2008 and we found that the deviations of the anomaly data are co-related with the seismic event. We found that the highest deviation takes place three days prior to the seismic events. We also calculated the 'D-layer preparation time' (DLPT) and the 'D-layer disappearance time' (DLDT) for the data of 2008 and we are trying to find out the co-relation between the anomaly of this DLPT and DLDT with the seismic events, if any. We are also trying to compare our result with the VLF signals received from another places.

REFERENCES:

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