

## **ELF/VLF Disturbances Associated with Earthquakes Observed by Demeter Satellite**

**A.K. Gwal and Shivalika Sarkar**

*Space Science Laboratory, Department of Physics, Barkatullah University, Bhopal-462026, India*

*Email: ak\_gwal@yahoo.co.in*

Disturbances of the electromagnetic field in the ultra low frequency range (ULF) and extremely low frequency range (ELF) are observed prior to moderate and strong earthquakes. The payload of the French microsatellite DEMETER allows the measurement of waves and also some important plasma parameters (ion composition, electron density and temperature, energetic particles) with high temporal resolution in the ionosphere over the seismic regions. In the present work, analysis of the low frequency fluctuations of the electric fields for some selected strong earthquakes is presented. The anomalies are reported to occur in the ULF/ELF range. Wave analysis of these emissions is possible only in the burst mode. The mechanism of the energy transmission from the earthquake to the ionosphere is not clear, but we can discuss the behavior of the ionospheric plasma and search for instabilities which could be a source of the electromagnetic field variations. A brief discussion of the characteristics of the spectra is also given in this paper.