

DISTURBANCES OF EARTH'S MAGNETIC FIELD OVER AN EARTHQUAKE PREPARATION FOCUS

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Abstract:

In the last few years, much attention has been paid to the study of earthquake precursors, including those observed in the ionosphere. Though the existence of seismoionospheric precursors is beyond question, the cause-effect relation between the lithosphere and ionospheric processes at the stage of earthquake preparation has not been established unambiguously because of the complexity of the problem. Therefore, it is necessary, first of all, to construct, a phenomenological processes of the atmosphere before strong earthquake. The problem must be considered on a regional basis, i.e., depending on the location of the earthquake epicenter, because of the physical processes in the high-, mid-, and low-latitude ionosphere differ essentially from one another even under quiet conditions. We have made an attempt to study the earth's magnetic field and its component, mainly H, D, and Z, over Indian latitude station. Some of the strong earthquake such as 19 Oct 1989 in northern part of India has been studied in the present work. The D value of the magnetic field is found to be sudden changes from the normal variation before 15 days of the eq event. Similarly H component of magnetic field shows consistent changes from the normal variation at all the Indian station. The Z component shows only regional enhancement. Thus it may be possible to identify the changes in the earth's magnetic field during earthquake preparation focus. The detailed result will be presented during the symposium.