



When Bhattacharyya talked about theoretical geomagnetic variations associated with a strike-slip fault, Nagata remarked that similar studies on a dip-slip fault must be extensively made.

Ispir presented some of proton precession magnetometer work in Turkey. It appears that seismomagnetic effects were sometimes observed although they are not quite certain. An interpretation of geomagnetic secular variation in terms of local geomagnetic constant was given by Isakara.

The first talk for the tectonoelectricity session in the afternoon was given by Rikitake. He presented some of the recent results obtained by the Yamazaki resistivity variometer. It was shown that a very small mechanical strain of the order of  $10^{-8}$ – $10^{-9}$  is monitored in terms of resistivity change when a large earthquake occurs at a teleseismic distance. In many cases a precursory change is observed.

Rikitake talked about electromagnetic induction within an earth in which there is a highly-conducting inclusion which is probably caused by dilatancy. In some cases the magnetic field of short period is modified to an extent that can be detected by geomagnetic variometers. It may be said that changes in geomagnetic variations can well be applied to earthquake prediction.

On behalf of Miyakoshi, who was unable to come, Rikitake read a paper on an anomalous secular change in the Parkinson vector at Tashkent. This could be accounted for by assuming a change in the configuration of the underground conductor.

Secular changes in geomagnetic variations of short period at Kakioka Magnetic Observatory in Japan was reported by Yanagihara. It seems likely that the changes in transfer function of geomagnetic variation do occur prior to moderately as well as extremely large earthquakes. It may be said on the basis of the theoretical and experimental results that changes in geomagnetic variations may provide a means of earthquake prediction.

Whitcomb reported on the preliminary geoelectric work in the southern California.

Mizutani emphasized the importance of electrokinetic effect associated with water diffusion. Even a suggestion that earthquakes may be controlled by applying an electric field to the earth's crust was made.

In summary it may be said from what we learned in the symposium that seismomagnetic effects can be observed in favourable cases and that monitoring of geomagnetic variations of short period originated outside the earth can well provide a means of earthquake prediction.

The following is the complete programme of the symposium:

1. M. Tazima, H. Mizuno and M. Tanaka (Japan)—Characteristics of anomalous geomagnetic variation and earthquake prediction in Japan

- 2.
- 3.
4. P
5. V
6. Y
- 6a. V.
7. B.I
8. Y.
- 8a. Y. J
9. Y. Y
10. T. R
11. J. M
- 11a. K. Ye
12. R.J. P.
13. H. Miz

2. M.J.S. Johnston (U.S.A.)—Tectonomagnetic experiments and observations in western U.S.A.
3. T. Nagata (Japan)—Tectonomagnetism in relation to volcanic and seismic activities of the earth's crust
4. P.M. Davis (Australia)—The volcanomagnetic effect
5. V.A. Shapiro and N.A. Ivanov (U.S.S.R.)—Secular variation anomalies in the middle Ural region
6. Yu.P. Bulashevitch, V.A. Shapiro and N.A. Ivanov (U.S.S.R.)—Modern processes in the earth crust and geomagnetic secular variation anomalies
- 6a. V.A. Shapiro (U.S.S.R.)—A review on secular variation anomaly in the U.S.S.R.
7. B.K. Bhattacharyya and T.G. Hildenbrand (U.S.A.)—A theoretical study of the direct and inverse problems of seismomagnetism
8. Y. Ispir, O. Uyar, Y. Gungormus, N. Orbay and B. Caglayan (Turkey)—Observed seismomagnetic effects in NW Turkey
- 8a. Y. Ispir, A.M. Isakara and H. Ozden (Turkey)—Variation in the local magnetic constant and seismicity of Turkey
9. Y. Yamazaki and T. Rikitake (Japan)—Resistivity changes associated with an extremely small strain caused by an earthquake
10. T. Rikitake (Japan)—Crustal dilatancy and geomagnetic variations of short period
11. J. Miyakoshi (Japan)—Secular variation of Parkinson vectors in a seismically active region of Middle Asia
- 11a. K. Yanagihara and T. Nagano (Japan)—Time change of transfer function in the central Japan anomaly with special reference to earthquake occurrence
12. R.J. Phillips, J.H. Whitcomb, D.M. Hadley and D.M. Cole (U.S.A.)—An investigation into the temporal correlations between resistivity and tectonic activity in southern California
13. H. Mizutani, T. Ishido, T. Yokokura and S. Ohnishi (Japan)—Electrokinetic phenomena accompanied with earthquakes