

LF-MF Band Electromagnetic Signals Observation System Using the Cross Loop Antenna

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An magnetic field observation system with an cross loop antenna of a wave radio-frequency band ranging from 10kHz up to 3MHz has been installed since 1999 on the site of the Mechanical Engineering laboratory, to study the nature of magnetic field signals. This radio wave observation system described here that it carries out the observation with geoelectric signals observation system and attempts the accuracy improvement of discrimination of the geoelectric signals change and identification by the comparison of that data mutually. And, it also made that the direction of the electromagnetic wave radiated as precursory phenomenon of earthquake was known to be a purpose.

It is said that various anomalous electromagnetic phenomenon were generated in epicenter and the marginal part from before a few days in which large earthquake is generated. Also, we by founding the monitoring station which placed the electrode at several places of Japan in underground vertical direction, the geoelectric signal has been observed. In the observation of the geoelectric signals, the following are entrapped : Noise by the thunderbolt and various artificial noise. Therefore, the identification is difficult only in the data got from geoelectric signals observation system, since it may be a signal except for the geoelectric signal as a sign of the earthquake. It seems to be an effective method to compare the data caught by the system in which the observation object differed in order to discriminate the geoelectric signals in which the noise was overlapped. This radio wave observation system described here that it carries out the observation with geoelectric signals observation system and attempts the accuracy improvement of discrimination of the geoelectric signals change and identification by the comparison of that data mutually. And, it also made that the direction of the electromagnetic wave radiated as precursory phenomenon of earthquake was known to be a purpose.