

## Earthquake Prediction by Electromagnetic Waves IV

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1. the purpose It enables earthquake prediction by capturing electromagnetic radiation, which is considered to be a precursor phenomenon of earthquakes. Predicting the magnitude of an earthquake and the area of the epicenter from the relationship between signal strength, duration, and radial direction data by capturing electromagnetic radiation observations that are precursors of earthquakes. In addition, we are trying to find precursory phenomena associated with destructive earthquakes from ordinary continuous observations. 2. Method and result Method Two receivers continuously record the signal intensity of the electromagnetic radiation generated between the ionosphere from the ground surface at 1-second intervals. The antenna is installed at a height of 17m and used for area specific determination using omnidirectional and directional antennas. The signal strength data, lightning strike data, ionospheric data, etc. are comprehensively judged and determined as a precursor to an earthquake. We will also examine whether the phenomena that occurred during the Great East Japan Earthquake can be found in observation data. It is hypothesized that this precursory phenomenon is not an electromagnetic phenomenon that occurs near the epicenter, but is generated within a shallow region of the crustal surface due to stress on the crust accompanying plate movement. result Observation of electromagnetic phenomena occurring before an earthquake at our school has been 10 years. We are continuing observations in line with previous research, but we also found that the Chuo Line of JR East runs right next to our university, and it is difficult to judge the signs that the normal magnitude is small. Compared with the data in Shinjuku Ward in the previous study, there is a lot of agreement for high-level signals. In combination with the Shinjuku observation data, we decided to capture precursory phenomena. A precursory phenomenon appears as a phenomenon if the epicenter of the earthquake is within the range of 20km to 90km in depth. If the magnitude is large, the precursors can be seen even at a depth of over 100km. 3. consideration In this study, only the 2015/9/12 Chofu (M5.2) earthquake showed significant changes. In the Shinjuku observation point data of the Great East Japan Earthquake, a large 100 mV drop was seen, so it is presumed that the observation data of our school will also drop significantly as a sign of a damaging earthquake. Various electromagnetic phenomena that occurred in the Great East Japan Earthquake will be investigated in detail, and destructive earthquakes will be predicted while collecting usable data. Due to the difference in the observation points, the signal level generation is time-shifted. Although many researchers believe that precursor signals originate from the epicenter of an earthquake, it can be assumed that crustal deformation occurs over time in the direction of force release. If we were to hypothesize, we think that noise and electric charge movement caused by electric discharges emitted near the observation point or near the ground surface such as active faults in areas where it is possible to receive earthquakes appear as precursors of earthquakes. 4. Conclusion In order to confirm the hypothesis, it is necessary to collect a lot of data and increase the number of observation points using the current observation method.

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