

Research of the Fukui Earthquake Fault (VI) THE DANSO ~you and me with Fukui shaking~

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We have several formal events in Fukui this year and what do you think of? Some maybe think of the National Athlete Meet held there for the record time from 50 years ago, but it is not what we are talking about. Now, I'd like you to remember "Fukui Earthquake". As some of you see, 70 years have passed since it occurred and in this year is the 70th anniversary.

The Fukui Earthquake occurred in 1948 with magnitude 7.1, and brought great damage on Fukui prefecture, killing as many as 3769 people there. This is the first large-scale earthquake that occurred directly underneath a modern city and led to set 7 grade seismic intensity.

Actually, there exist a lot of active faults including active Fault zone at eastern margin of Fukui plain, which caused the earthquake. Our purpose was to reveal the underground structure through analyzing the seismic wave and we now hope that this research will be some help for disaster prevention in Fukui Prefecture. This research continues for 6 years and we took it over from our senior. We set a new observation point last year and observed the seismic wave around active faults including active Fault zone at eastern margin of Fukui plain with 6 points. We also researched on Frequency characteristic as a new attempt in order to identify the origins of coda wave.

In this research, we studied from 3 respects.

First one is to determine the hypocenters. We determined hypocenters of earthquakes by using Win-system in order to accumulate data of them, on which our research was based. We determined 36 new hypocenters last year and now have 120 events from the past 6 years.

Another respect is to presume the underground structure of each observation station from the data of first S wave vibration direction. From the data of seismic wave form, we created hodographs, identify the first vibration directions and pointed out the possibility of existence of cracks and some underground structure from them. As we had more data, we could analyze in more detail. This year, we considered the direction and length of a fault observed from the ground with presumption data and wave forms.

The other respect is to study on relation or relationship between active faults including active Fault zone at eastern margin of Fukui plain and the origin of remarkable S coda wave. S coda waves were observed on the points locating between the faults when an earthquake occurs in the extended area of the fault zone. We did spectral analysis for the purpose of revealing whether the origins is the same as S waves.

Keywords: Faults zone at the eastern margin of the Fukui plain, S wave splitting, Anisotropy, Crack model, Coda wave

