

Research of the Fukui Earthquake Fault (VII)

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71 years have passed since the occurrence of “Fukui Earthquake.” Fukui area has overcome a lot of sufferings and has revived from that wretched spectacle. Now, what to do in order not to repeat the tragedy?

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 the 7th grade in “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 7 years and we took it over from our senior. We have observed the seismic wave around the active fault zone at eastern margin of Fukui plain with 6 points.

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 set, on which our research was based. We determined 47 new hypocenters last year and now have 319 events from the past 7 years.

Another respect is to estimate 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. This year, we considered what caused the little differences between this year’s data and past ones.

The other respect is to study the structure of active Fault fracture zone at eastern margin of Fukui plain by travel-time analysis for coda waves. In our two observation points (Kanzu, Sakai) inside active Fault zone at eastern margin of Fukui plain, remarkable coda waves are sometimes seen after S waves. According to our senior’s study, they occur because seismic waves which come from extended area of faults zone get to the fault exceeding critical angle and reflect totally. They concluded that the origin of S wave and remarkable coda wave is same by spectrum analysis. On the basis of these, we did travel-time analysis for S waves and remarkable coda waves, and considered the structure of active Fault fracture zone at eastern margin of Fukui plain.

Keywords: Fault zone at eastern margin of Fukui plain, S wave splitting, Coda wave, Travel-time analysis



福井地震断層の探求Ⅶ

福井県立藤島高等学校

福井地震による被害統計 (GHQ調査報告より)	
死者	5,268
負傷者	10,194
全壊家屋数	35,437
半壊家屋数	5,881
焼失家屋数	3,931

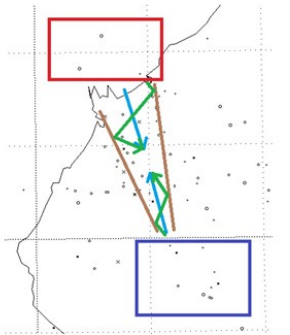


図 福井平野付近

- 北側の地震の範囲
- 南側の地震の範囲
- S波
- 後続波
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