Oral | Symbol S (Solid Earth Sciences) | S-SS Seismology

[S-SS34_29AM1]Active faults and paleoseismology

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Geologic and historic information on seismic cycles and on the magnitude and source faults of past earthquakes is essential information to understand future large earthquakes. The study of past faulting and seismicity is an important issue for an interdisciplinary community of seismologists, geologists, geomorphologists, archaeologists, and historians.

10:30 AM - 10:45 AM

[SSS34-P12_PG]Examination of tectonics of the Shinano River basin, Niigata and Nagano prefectural border.

3-min talk in an oral session

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In Niigata and Nagano, the trend of a general structure has a NNE-SSW strike called what is called the direction of Niigata. Moreover, it is thought that the trend of an active fault has the direction of Niigata similarly. However, the western Tokamachi fault belt continuous from Tokamachi city to Niigata and Nagano prefectural border contains in the south the Miyanohara fault which is an ENE-WSW strike(Headquarter of Earthquake Research Promotion 2010).The Shinano River syncline which has in Tokamachi a NNE-SSW strike which exists in Shinano River and parallel being crooked in Tsunan-cho, and becoming an E-W trend.(Shimazu and Tateishi 1993. And Takeuchi et al 2000).However, the exact position and a posture are not specified. That is, it was not necessarily confirmed based on detailed investigation, the structure of the area is the direction.The tectonics of the area has many questions as mentioned above. It inquired for the purpose of solving the tectonics of the area.It was able to ask for the exact position of the Shinano Kawamuki slant continuous to a the area as a result of investigation. Moreover, Chikumagawa anticline and hokushin syncline was was newly authorized in the area.Moreover, the sectional view over the Miyanohara fault in this research was compared with Sega (2012MS) in a Tokamachi basin west marginal fault belt. When done so, it turned out that the form of folding is alike. Therefore, it is thought that a Tokamachi basin west marginal fault belt and the Miyanohara fault are the same postures. Therefore, these connect and it is thought that the western Tokamachi fault belt is constituted. Moreover, the form of folding is alike also around hirataki. Therefore, the southernmost end of the western Tokamachi fault belt may be extended further west.Furthermore, small fault method which used the Multiple Inverse Method was conducted. A result, it turned out that the small fault is recording two or more times of transcurrent fault type stress.Horizontal gap stress is as conformable as the earthquake mechanism of aftershock of the northern Nagano earthquake in 2011,3,12. Therefore, it is possible that Japan of those days was also placed by the same stress-ization as the present after the offing earthquake of the Tohoku earthquake.