

Seismic Reflection Survey at Eastern Edge of Aizu Basin

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We conducted seismic reflection survey at eastern edge of Aizu Basin in Aizuwakamatsu City in September 2015. The Aizu Basin is located between the Western and Eastern Aizu Basin Fault Zones. It is helpful to reveal detailed structure of the fault zones that segment the edge of the Aizu Basin, in order to understand the whole Aizu Basin. Our purpose of the study following the survey in Kitakata City, in the north of the Aizu Basin in September 2014 is to obtain control data to understand the whole Aizu Basin.

In the profile of the 2014 survey, we can see flexure caused by the Eastern Aizu Basin Fault. There, we conducted the survey at Ikkimachi-Tsuruga, Aizuwakamatsu City, where is about 10km to the south of the survey area in 2014. The length of the survey line is about 860m. The western half of the survey line is relatively flat, but the eastern half of the survey line inclines toward the west and is overlaid by the Okinajima Debris Avalanche Deposit. To the north of the survey line, a 6m displacement is recognized from the surface of the deposit, and it is deduced that the displacement is caused by the Eastern Aizu Basin Fault.

We used a portable vibrator ELViS III by GEOSYM with S-wave. Spatial intervals of shot points are 2m, seep frequency is 20 to 160Hz, and sweep duration is 7s. We used single horizontal component geophones with GS32CT ($f_0=10\text{Hz}$) by Geospece, and the intervals are slao 2m. We deployed 96 geophones simultaneously, and moved 48 geophones at a time.

We cannot obtain obvious event at the eastern half of the survey line, and it is possible that it is caused by the debris avalanche deposit. Inclined event toward west can be seen at the western half of the survey line, and structure like flexure also can be seen. We cannot determine that the structure is caused by the Eastern Aizu Fault, but it is possible that the fault is located relatively more western than that deduced from the topography.

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