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P-wave onshore offshore integrated seismic reflection survey in the southwest of Niigata coastal area, central Japan.

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The offshore of Niigata, where earthquake source faults that caused the 1964 Niigata Earthquake and the 2007 Chuetsu-Oki earthquake are distributed, is located in the high strain rate belt. However, most of the offshore geology is poorly known due to the limit of observation. To obtain the integrated seismic data in and around the Niigata coastal area, we conducted onshore-offshore seismic reflection profiling across a northern extension of inland active reverse fault along the eastern foot of Kakudayama. Along the offshore part and the onshore part of the seismic profile, 1 20ch hydrophones and 180ch geophones were deployed, respectively. The source used in offshore survey is an airgun array (80 cubic inch), and in onshore survey is one middle vibrator truck (Enviro VIB) with 10-80 Hz signals. Both of survey source spacing was 5 m, and also receiver spacing was 10 m. The obtained seismic profiling data were processed by conventional common mid-point (CMP) methods. We will present the result of the seismic survey in Niigata coastal area.

Keywords: Niigata, seismic reflection profiling, subsurface structure, offshore zone