[JJ] Evening Poster | S (Solid Earth Sciences) | S-SS Seismology

[S-SS11]Crustal Structure

convener:Yasuhira Aoyagi(Central Research Institute of Electric Power Industry)
Thu. May 24, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)
The aim of this session is to cover seismological and geophysical studies on the Earth's crust. Contribution on seismological and geophysical structure of the crust, processes that develop in the crust which include earthquakes, volcanoes and geological descriptions of the crust are welcomed. We also welcome theoretical and methodological studies that will serve as basics in such explorations.

[SSS11-P03]Seimic Reflection Survey in Aizubange, Fukushima

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Aizu Basin topographically inclines toward West, with the stream of the Aga River. However, shape of subsurface layers; Todera Formation etc. does not necessarily have the similar feature to the topography. Shape of subsurface layers is estimated with outcrop at east or west of the basin, and/or with drill core data, but is not imaged spatially continuously. Continuous data is helpful to estimate history of deformation of the basin, and seismic reflection survey is one of the useful tools.

We conducted seismic reflection survey along the 4.8km survey line from Todera area at Aizubange, Fukushima, toward east. The survey was carried out from 9 to 18 in October, 2017. Spatial intervals of shots and receiver points are 2m. We used telemetry recording system. Receiver points are 192 simultaneously, and maximum offset is 382m. Sampling interval is 0.5ms, and record length is 2s. We used mini impactor (JMS-Mini65) for seismic source, and hit three times at each point.

First arrivals about 2.0 km/s of apparent velocity can be seen to the far end of the shot records. They are the refracted wave. These phases are transformed into later phases; reflected waves from first arrivals near the shot points. Several reflected events can be seen until 0.6s around the shot point besides them.

We made time profile with constant velocity, and many events can be see in the profile. However, we consider that many false phase caused by noise will be included in the profile. We must remove noise from traces in order to confirm the continuity of the reflected events, and we are going to do soon.

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