

Structural survey using seismic interferometry method with 150ch array in the aftershock area of the Noto Hanto Earthquake

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We surveyed geological structures using seismic interferometry method in the aftershock area of the Noto Hanto Earthquake by using 156ch seismic array observation from 30 March to 2 April (four days) in 2007. We set a survey line along the side of a south-north road over the aftershocks. Seismometers were set at the interval of 10 meters and the sampling interval was 1 millisecond. Our original survey system has 13 A/D converters and each converter can observe signals from 12ch receivers. This equipment can continuously record numbers of signals for long time and we continued to observe seismic records for four days and nights. We observed several continuous seismic records for up to 6 hours and the total length of records is over 30 hours. Continuous aftershock records were split into short records for 20 second and each shot record includes at least one aftershock. In the result, more than 800 record files were created.

Observed aftershock records include various noise components caused by vehicles, raindrops and wind. We eliminated record files with strong noise components. By using seismic interferometry method from taking cross-correlations of aftershock data records, seismic reflection records are reconstructed. Finally, we apply standard reflection processing to the pseudo reflection records and image geological structures in the aftershock area.