

## To recognize deformation of a terminal part of earthquake fault with 3-D high resolution seismic reflection survey.

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In earthquake scale evaluation based on active fault investigation, interlocking movement evaluation for each fault segment is a prime problem as well as activity evaluation for each fault segment. It is necessary for an extinction process of deformation in a terminal part of each fault segment to be clarified to overcome this problem. About this, following five items are nominated for a characteristic from the viewpoint of topography. 1) Transitional extinction. 2) The formation of divergence fault. 3) The formation of a secondary fold. 4) A change of a direction. 5) The formation of pull-apart basin. However, there are a lot of what is not elucidated because there are few studies investigated underground structure about these. In all of five items that mentioned above, as for deformation of a terminal part of a fault segment, it is become extinct while spreading in depth. Therefore, it is necessary for us to carry out a high-resolution 3-D basement geological survey including velocity structure to recognize these details.

3-D seismic reflection survey is put to practical use in the field of exploitation of resources, and there are the results by exclusive investigation ship in a subduction area in the field of scientific research.

In this study, we carried out 3-D high resolution seismic reflection survey in a region including sea side terminal part of Fukozu fault which was earthquake fault of Mikawa Earthquake (1945, M6.8). A water gun (chamber = 15cbi, shot interval = 2.5m) was used as a source. Six short streamers (5m space 2ch specifications = 5, 2.5m space 12ch specifications = 1) were towed by a stand ship (25m in width). As a result, the state that fault which gave the bottom of the sea displacement canceled the displacement transitionally was recognized as an extinction process of deformation with fault.

It is important that a scale and underground structure of deformation in a terminal part of a fault segment such as above-mentioned five items are clarified.

