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## Study of efficiency improvement of seafloor geodetic observation

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We have been developing a system for precise seafloor geodetic observation with the GPS/Acoustic combination technique and deploying seafloor reference points on the land-ward slope of the major trenches around Japan, such as the Japan Trench and the Nankai Trough. The primary purpose of our observation is to detect and to monitor the crustal deformation caused by the subduction of the oceanic plate near the plate boundary.

We succeeded in detecting notable seafloor movements associated with, and subsequent to this event. However, the precision of observation and number of observation points are insufficient comparing with terrestrial GPS observation. To detect crustal deformation more precisely, it is necessary to improve precision and densities of observation network.

A precision of estimated position of seafloor reference point are improved using long-time series of observation data. There is trade-off between time length of observation and precision of result. Therefore, to increase a observation points, it is necessary to improve observation method more efficient.

In 2010, we carried out examination to study more efficient observation method at seafloor reference point installed at Sagami bay. In this presentation, we will report the result of these observations.

Keywords: seafloor geodetic observation