

# Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



SCG059-P01

Room:Convention Hall

Time:May 27 10:30-13:00

## Seafloor geodetic observation on S/V "Takuyo"

Naoto Ujihara<sup>1\*</sup>, Tadashi Ishikawa<sup>1</sup>, Mariko Sato<sup>1</sup>

<sup>1</sup>Hydrogr. and Oceanogr. Dept. of Japan

Japan Hydrographic and Oceanographic Department (JHOD) and Institute of Industrial Science, the University of Tokyo have been developing a system for precise seafloor geodetic observation with the GPS/Acoustic combination technique and deploying seafloor reference points on the landward slope of the major trenches around Japan, such as the Japan Trench and the Nankai Trough.

The past observations show intra/interplate crustal movements at seafloor reference points installed along the Japan Trench and the Nankai Trough, with the precision of less than 1cm/year. In addition, the co-seismic seafloor movement associated with the 2005 off Miyagi Prefecture Earthquake (M7.2) and series of crustal movements indicating the beginning of the reaccumulation after the release of crustal strain in the sea area were detected.

In 2008, JHOD installed the acoustic transducer on the bottom of the Survey Vessel "Meiyo" (550 tons) permanently and started the measurements for the sailing method for observing more efficiently and precisely.

JHOD also installed the new seafloor geodetic observation system on the S/V "Takuyo" (2,400 tons) in 2010. It is expected that the observations by "Takuyo" will be more precise in strong tidal area and the observations by JHOD will increase.

In this poster, we will report the system of sailing seafloor geodetic observation mounted on S/V "Takuyo" and the latest results observed by S/V "Takuyo".

Keywords: seafloor geodetic, GPS/A, seafloor reference point, acoustic ranging