Japan Geoscience Union Meeting 2013
(May 19-24 2013 at Makuhari, Chiba, Japan)

STT56-P01 会場:コンベンションホール 時間:5 月 19 日 18:15-19:30

次世代海底地震計の実海域試験
Sea trials of new generation ocean bottom seismometer

清水 賢 [1*], 前川拓也 [1], 木村忠勝 [1], 佃　薫 [1], 渡邊佳孝 [2], 高橋成実 [2], 畠山 清 [2], 小平秀一 [2]
Satoshi Shimizu[1*], Takuya Maekawa[1], Tadakatsu Kimura[1], Kaoru Tsukuda[1], Yoshitaka Watanabe[2], Narumi Takahashi[2], Kiyoshi Hatakeyama[2], Syuichi Kodaira[2]

[1] 日本海洋事業株式会社, [2] 海洋研究開発機構
[1]Nippon Marine Enterprises, Ltd., [2]Japan Agency for Marine-Earth Science and Technology

We developed a new generation of ocean bottom seismometer (OBS) for extensive seismic study, which designed to advance compactness, user-friendliness, and electrical/mechanical transmission response. The new OBS named OBS2G (2nd Generation OBS to Grid) is integrated in a 13-inch glass-sphere and its weight is just 35 kg in air including the sinker. Access to the stored data, parameter-setting, time-synchronization, and battery-charge are available without opening the glass-sphere by wireless transmission technique. The dynamic range of the seismic recorder is 135 dB at 100 Hz-sampling. OBS2G employs newly developed low-noise (< 7ng/Hzˆ1/2 at 10Hz) and low-power-consumption accelerometers (15mW). The simple exterior of the OBS2G improves its mechanical transmission response compared to conventional short-period OBS that has some resonances. Observation period of OBS2G is over 4 weeks with the accelerometers.

Currently we have achieved four times of sea trials with OBS2Gs. The recent two trials were conducted at deep waters on JAMSTEC research cruise KR12-12 and KR13-01. The first experiment was held in August 2012 in a water depth of 4,000 meters, the Nankai Trough off Shizuoka. Recent one was held in January 2013 with two OBS2G in water depths of 7,000 meters, the Japan Trench off Miyagi. We have successfully obtained good quality seismic data on both experiments. In this paper, we will briefly introduce characteristics of new OBS and features of acquired data.

キーワード: OBS, 地震
Keywords: OBS, seismic