

## Research on the stagnant slab by long-term BBOBS and OBEM arrays

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To investigate the stagnant slab beneath the northern Philippine Sea, we have started a large scale array and 3 years long observation in 2005 by using 12 broadband ocean bottom seismometers (BBOBS) and 11 ocean bottom electro-magnetometers (OBEM). It is a key part of the 'Stagnant Slab Project' (SSP) started in 2004 for 5 years, because of the first direct dense observation above this target to reveal the fine physical structure of the stagnant slab. And, the transition of the slab morphology along the Izu - Ogasawara (Bonin) - Mariana arc shown by a global tomography is also an interest to be resolved with high resolution by this experiment.

The first deployment cruise was performed with the R.V. Kairei (Jamstec) during 5 - 26 Oct. 2005, and we could visit all 18 stations planned in the Philippine Sea and the northwestern Pacific. The area is extended about 1000 km (N-S) x 2000 km (E-W). Both of BBOBS and OBEM have been used in several long-term experiments at many places with high reliability. All BBOBS and OBEM were recovered during 29 Oct. - 20 Nov. 2006 by using the same vessel. And the successive observation is continued with 12 BBOBS and 12 OBEM for one year.

Prior to this experiment, one BBOBS station was maintained for one and half year long near the middle of this area. The noise model, calculated in the same way of the IRIS station book, indicates that the peak level of the micro seismic noise is close to the NHHM and a relatively low noise window exists near 10 s. As this noise model character is the best among previously obtained at the northwestern Pacific, French Polynesia and Sea of Japan, we can expect high quality seismic data from this new and dense observation.

In this presentation, we introduce the purpose of this experiment, whole plan of 3 years long observation, details of BBOBS and OBEM, expected results by simulations, and the preliminary result from the latest cruise.