

Crustal Structure in and around Senoumi Bank, Suruga Bay, Central Japan as Derived from Seismic Refraction Survey

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Tokai University and Meteorological Research Institute have been conducting seismic observation using pop-up type OBSs in and around Senoumi Bank, Suruga Bay since 2012. Suruga Bay is located in the Pacific coast of central Honshu, Japan, where large thrust earthquake along the Suruga trough expected to occur (Ishibashi, 1981) and often referred to as the Tokai Earthquake. OBSs deployment and retrieval have been repeated every three months at three or four sites continually. The velocity structure model is important in particular to decide about earthquake hypocenters.

In November of 2016, we carried out seismic refraction measurement (Tsuruga et al., 2017) using airgun and 6-OBS's, and we conducted the survey by research vessel "Shinyomau" of Tokyo University of Marine Science and Technology which was renewed on 2016.

The analysis of these refraction data, using the two-dimensional ray tracing method of trial sought detailed crustal structure model. In this report, we show the crustal structure model in and around Senoumi Bank, Suruga Bay.

The features of the crustal structure model thus obtained are as follows;

Sedimentary layers are shown by seismic reflection profiles (Tsuruga et al., 2017). The thickness of the layers along the seabed undulations is approximately 0.4 km.

Second-layers are 2.9 km / sec. This makes interpreting the sedimentary layer 2. This layer is thinner in the center of the line, thicker at both ends positioning line.

Third-Layers are acoustic basement of 4.7 km / sec. Western slope of Senoumi Bank are became thin layer.

4th-Layers are 5.1 km / sec. This layer is considered the top of the continental crust.

Our result could not find a granitic layer, but depth was confirmed the structure of up to 8 km.

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