

Multi-channel seismic profiling in the northern part of Suruga bay using the Shiyomaru-vessel of Tokyo University of Marine Science and Technology (Preliminary report)

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There is few detail observations and studies about the subduction structure in Suruga trough area as a plate boundary between the Philippine sea plate and Eurasia plate. It is very important to understand the detail structure of Fujigawa fault system to prevent and reduce earthquake disaster by future Tokai earthquake. We have been trying to clarify a shallow structure in this important area by means of both seismic reflection and refraction surveys since 2016 and 2017 (Tsuruga *et al.*, 2016, 2017, 2018). In this report, we show the preliminary results of the seismic reflection and refraction surveys in Suruga Bay, Central Japan, conducted by Shiyomaru-vessel of Tokyo University of Marine Science and Technology (TUMSAT) cooperated with University of Tokyo and Tokai University.

We conducted the 2-D seismic reflection and refraction survey with air-guns and streamer cable system in Suruga Bay, from Oct. 1 to 9, 2018, along three survey lines (*i.e.*, H30-L00/R00, H30-L01 and H30-L02 lines) which were located in the northern part of Suruga bay with the length of 19.5 km, 20.0 km and 16.1 km, respectively. We used two Bolt air-gun source systems of 'Tri-Gun' 1500LL (350 cu.in x 3) and 1500LL (300cu.in x 3) with a total air volume of 1,950 cu.in for H30-L00/R00 and H30-L02 survey lines with a shot interval of 50 m while we used Tri-Gun 1500LL (350cu.in x 3) with a volume of 1050cu.in with a shot interval of 25 m along H30-L01 line. Total shot number was 2717. Hydrophone receivers array consisted of Hydrosience digital streamer cable including 96 channel sensors with an interval of 6.25 m inside a cable of 600 m long, and a small tailbouy. TUMSAT research vessel 'Shinyomaru' has the following principle specifications: length, beam, and gross tonnage are 65 m, 12.5m, and 986 tons, respectively. Details of the refraction survey across a land area and oceanic area will be shown by Sato *et al.* and Baba *et al.* (in this meeting, 2019).

Preliminary results show some important features as follows: Reflection section of H30-L00 indicates a continuous west-tilting reflection phase which may be located around an upper boundary of the sedimentary layers over the subducting oceanic plate toward west. These reflection phases might be continued to the those along H29-L02 located in the northern area and H30-L02 and H28-L03 located in the southern area. We have not found the dominant characteristics of subduction boundary in these observations. Along H30-L01 we might find an interesting feature as a boundary between Honshu block and Izu peninsula. The details of our result will be shown in the presentation.

This study was supported by fund from the Ministry of Education, Culture, Sports, Science and Technology. We appreciate the big cooperation by Shizuoka prefecture Federation of Fisheries Cooperative Associations and many Fishery Cooperatives around Suruga Bay to understand our study. We thank Tokai University for helping us in an ocean by a vessel 'Hokuto'. Finally, we greatly thank Shinyomaru's crews and many staffs of our university for their encouragement and helps.

Keywords: Plate boundary, Seismic reflection and refraction survey, Suruga Trough