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The reports of seismic reflection survey in the eastern coastal area of Boso Peninsula

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AIST has conducted the coastal project since 2008 in order to equip seamless geoinformations of land and sea (e.g., Sato, 2014). This project has approached the eastern coastal area in Boso Peninsula since 2014 and this study reports the preliminary results of the subsurface structure in the area.

Some characteristic geological structures distribute in Boso peninsula. The Kamogawa-teichi fault zone extends to east-west direction at southern part of the Boso Peninsula (Murai and Kaneko, 1975; 1976). The Kashima-Boso uplift zone including some uplift axes locates from the Kashima area to the Boso Peninsula (Kaizuka, 1987). Additionally the Japan trench, where the Pacific plate are subducted under the Eurasian plate, is located on the east of Boso Peninsula.

The survey area is the eastern coastal area of Boso Peninsula and the total length of the survey line is 630 km. The method of this survey is seismic reflection by boomer equipped with boats. A Streamer cable has 24 channels with 3.125 m spacing.

The survey area is subdivided into the Kujukuri area and the Kamogawa area based on topography and geological structures. The Kujukuri area is characterized by broad shelf with 150 m in depth and existence of the Katakai canyon. Two strata bounded by unconformity distribute in this area and this study defines them as the Kujukuri A Unit and the Kujukuri B Unit, in ascending order. The Kujukuri B Unit has some synclines and anticlines, which strikes are toward both north-south and east-west direction.

The Kamogawa area is characterized by the Kamogawa canyon and narrow slope. The strata in the area are subdivided into the Kamogawa A Unit and the Kamogawa B Unit in ascending order. The Kamogawa A Unit is further subdivided into some subunits related to sea level cycle. Although there are no data for sedimentary age, the Kamogawa A Unit could correlate to the Kujukuri A Unit. The progradation pattern forward the land can be observed within the Kamogawa B Unit. Additionally there are some faults fallen toward westward.

The strata distributed in Kujukuri area could be correlated to the Shimousa Group and those in Kamogawa area could be correlated to the Awa Group respectively, although more investigation should be required.

Keywords: he eastern coastal area of Boso Peninsula, seismic reflection survey, the Kujukuri area, the Kamogawa area