Japan Geoscience Union Meeting 2010
(May 23-28 2010 at Makuhari, Chiba, Japan)

SSS023-07 Room: 302 Time: May 25 15:45-16:00

Anisotropy of magnetic susceptibility and its implication in deep-sea sediments collected from off Boso and Sagami Bay

Kiichiro Kawamura[1*], Satoru Muraoka[2], Toshiya Kanamatsu[3]

[1]Fukada Geological Institute, [2]Ocean Research Institute, [3]JAMSTEC

Around Tokyo in Kanto region, central Japan, we have damaged by large earthquakes. It has known that the large earthquakes have occurred repeatedly around this region based on historical descriptions and land topography data. It has revealed that such records of past-large earthquakes are archived in deep-sea sediment. One of their representative examples is a seismogenic turbidite. This is a turbidite (sandy) layer, which is deposited due to collapse of a submarine slope triggered by earthquake shaking. In order to study such seismogenic turbidites, we need to understand where such turibidites are deposited. Namely, we are necessary to know sedimentary processes in the place using seismic surveys and surface sediment sampling.
In this paper, we discuss sedimentary processes deduced by deep-sea sediments and topographic data in Sagami Bay and off Boso Peninsula area, central Japan near Tokyo.
From 5 to 15 Nov. 2007, we collected gravity cores (hereafter GC) and piston cores (hereafter PC) during cruise KY07-14 using R/V Kaiyo of JAMSTEC vessel at five sites in Sagami Bay and at one site in Boso area. The water depths were ranging from about 900 to 2100 m. Then From 14 to 18 Aug. 2009, we collected PC samples during cruise KR09-10 using R/V Kairei of JAMSTEC vessel at three sites in Boso area. The water depths were from about 2000 to 4200 m. Either were cruises of heat flow measurements for pre-site survey of Kanto Asperity Project, which is a scientific drilling proposal for Integrated Ocean Drilling Program.
Those cores are a few meters in length, and composed of basically muddy sediments interbedded with scoriaceous and volcanic ash layers. We measured anisotropy of magnetic susceptibility (AMS) in these sediment cores to understand transportation processes of the deep-sea sediments. We discuss about the sedimentary processes around Sagami Bay and Boso area using the AMS data, topographic data and sediment features.

Keywords: Paleocurrent analysis, Sedimentary process, Paleo-earthquake, Piston cores, Kanto Asperity Project