**Japan Geoscience Union Meeting 2011**
(May 22-27 2011 at Makuhari, Chiba, Japan)


SEM036-P12 Room:Convention Hall Time:May 26 10:30-13:00

# A paleomagnetic study for cores from basement rocks of the Bowers Ridge, in Bering Sea

Tomohiro Gokan[1], Makoto Okada[1*]

[1]Ibaraki University

The IODP Expedition 323 was done between July 5th - September 4th of 2009. Samples used in this study were collected from Core 8X - 19X of Hole U1342D. The Hole U1342D was drilled 127.7 meters below sea floor at 54.5 degree N in latitude, 176.6 degree E in longitude and 818.2 meters in water depth. This site is located on the crest of western part of the Bowers ridge, that has not been revealed its formation processes including age and location. The purpose of this study is to know the paleolatitude where the Bowers ridge formed with paleomagnetic analyses on collected samples.

Lithology of the cores mainly consists of volcano-clastics including volcanic sands and breccias, and lava fragments. Since there is no thick lava flow, which has not rolled after it settled, has been seen on the cores, we conducted the conglomerate and thermal contacted tests for the specimens to assess the quality of thermal remanences to reconstruct paleolatitude. One-inch diameter mini-cores collected at 26 positions and half-inch diameter micro-cores collected at 101 positions from the Hole U1342D cores. Proogressive alternating field demagnetization from 5m T to 60 mT with 5 mT steps, and/or progressive thermal demagnetization from 100 to 600 degree C with 25 to 50 degree C steps were done for specimens from the all positions. Magnetic susceptibility at each step of progressive thermal demagnetization, and anisotropy of magnetic susceptibility were also measured.

As the results, characteristic remanent magnetizations (ChRMs) were extracted from 50 one-inch specimens and 72 half-inch specimens. Among those ChRMs, only 5 specimens from one piece of core show that the ChRMs settle in similar direction of which the average inclination becomes -63.8 degree with 19.7 degree in 95% confidence limit. This value indicates 45.5 degree in average with ranging from 27.3 to 73.9 degrees in paleolatitude. However, a paleolatitude assessment requires time averaged paleomagnetic directions at which the time should be much longer than the period of geomagnetic secular variation (c.a. several thousand of years), suggesting that we can not argue paleolatitude using our results.

Keywords: Paleomagnetism, IODP EXP323, Bering Sea, Bowers Ridge