Rock-magnetic stratigraphy of the Northwest Pacific Deep-sea Sediment: Implication of past behavior of the Kuroshio Extension

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The warm Kuroshio Current is colliding with the cold and nutrient rich Oyashio Current in the transition zone between the subtropical and subarctic zones, the Northwest Pacific. The sediment under this transition zone records the history of fluctuation of both currents. Three sediment cores in this area were analyzed by the enviromental rock-magnetic technique. The ages of cores were determined by correlation between SINT800 (Guyodo and Valet, 1999) and the obtained relative paleointensity of geomagnetic field.

The change of magnetic properties in cores takes place with correspondence to glacial-interglacial cycles. The interglacial sediment is characterized by higher ferromagnetic and paramagnetic contributions. However the glacial sediment is characterized by the antiferromagnetic mineral (e.g. goethite or hematite). Lateral transportation of volcanic material originated from Izu-Ogasawara to the Northwest Pacific is most possible source as the interglacial sediment. On the other side, the magnetic property of sediment in the glacial period suggests the eolian input from Asian continent.