

# **Anomalous of the Isothermal Remanent Magnetization of the Marine Sediment in the Central Okhotsk Sea**

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## **Abstract**

We analyzed the magnetic properties of marine sediment core MD012414 collected during IMAGES VII cruise in the central Okhotsk Sea. The results of the Isothermal Remanent Magnetization (IRM) of the core show an extra anomalous phenomenon occurred at several depths, which is quite different from the curves of most known ferrimagnetic minerals. It is that the IRM increases firstly as the applied field up to about 50-100mT, then acutely dropped down to a minimum value when the applied field reached to 250-300mT and then keeps steady low values until the applied field of 950mT. Treated the IRM with the alternating field demagnetization, It is found that the remanents decreased first until 100-200mT, then increases dramatically to maximum value at the level of 300mT and decreases gradually until 1000 mT. This phenomenon could be repeatedly. The same anomalous characteristics of IRM have been experienced obtained from the heated siderite-bearing sandstone specimens. Thus, it is suggested that the sediments acquired the anomalous IRM found in the central Okhotsk Sea probably contained the siderite which derived from the siderite ores or the volcanic province surrounding the Okhotsk Sea.