Paleomagnetic and rock magnetic investigation in marine sediments, Nankai Trough, offshore Cape Muroto

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The Nankai Trough is an accretionary complex which extends over several thousands of kilometers along the Japanese Pacific coast. Many ocean scientific drilling expeditions have taken place in this zone to better understand the mechanisms of big earthquakes and generation of devastating tsunamis. Offshore Cape Muroto, Shikoku Island, is one of investigated zones. A recent International Ocean Discovery Program (IODP) expedition (IODP Expedition 370) in the area has focused on the temperature limit of life in deep subseafloor sediments. Here we present paleomagnetic and rock magnetic preliminary results on two neighboring sites in this zone drilled during two former Ocean Drilling Program (ODP) legs: Site 808 of ODP Leg 131 and Site 1174 of ODP Leg 190. At all sites, shipboard magnetostratigraphy was challenging because of a strong diagenetic alteration of the magnetic mineral assemblages. Four main downcore magnetic zones, characterized by specific magnetic properties and mineralogy, are identified. At Site 808, catagenesis of the organic matter has been proposed to explain the downcore rock magnetic properties. This explanation however could not stand for Site 1174. We present here a first attempt of a comparative paleomagnetic and rock magnetic study in high temperature marine sediments, off Cape Muroto.