

Stratigraphy and paleoceanography for the Plio-Pleistocene marine sequence distributed in the southern most part of the

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Based on magnetostratigraphy and oxygen isotopic stratigraphy using benthic foraminifers, an integrated chronostratigraphy has been reconstructed for middle part of the Chikura Group including the Plio-Pleistocene boundary distributed on the southernmost part of the Boso Peninsula, central Japan. The results indicate that, the studied sequence is correlated with from the middle Gauss chronozone to the Olduvai subchronozone, and the LR04 (Lisiecki and Rymo, 2005, *Paleoceanography*, 20) marine isotope stages (MIS) from MG4 through 61.

The Matuyama/Gauss boundary detected at the sequence is situated on MIS 103, not on MIS 104 that is described in the LR04 time scale. This interpretation is consistent with the boundary position reported at the Mediterranean sapropel stratigraphy.

Planktonic foraminifera assemblage has analyzed for the sequence between 3.2 to 2.4 Ma, and the results demonstrated that the mixed water (between the Kuroshio and Oyashio waters) dwelling species dominate for most of the sequence. However, the ratio of the Kuroshio dwelling species against the total of the Kuroshio and Oyashio dwelling species (except for the mixed water one) indicates that Kuroshio has been quite strong stably before 2.7 Ma and Oyashio has just started to influence after that time at around the Boso Peninsula. A record of biogenic opal shows a cyclic variability might be associated with glacial-interglacial changes. This variability seems to decrease slightly, but does not show any drastic drop at around the Plio-Pleistocene boundary observed in the Northern Pacific (eg. Haug et al., 1999, *Nature*, 401). On the other hand, a nitrogen isotopic ratio of organic matter progressively increases through the whole sequence. These results suggest that nutrient uptake has gradually but never drastically decreased across the Plio-Pleistocene boundary at around the Boso Peninsula.

Keywords: Plio-Pleistocene boundary, oxygen isotopic stratigraphy, magnetostratigraphy, planktonic foraminifera, Kuroshio current