

## Middle Pleistocene tephrostratigraphy of C9001 core drilled by CHIKYU off Shimokita Peninsula and its application for in

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We described Middle Pleistocene tephra layers detected from C9001 core drilled by CHIKYU off Shimokita Peninsula, and attempted to correlate these tephra layers with those already identified on land by previous studies. Two pumiceous tephra layers found at 141.2 mbsf (meters below seafloor) and 146.6 mbsf are very similar to Tanabu B and C tephra, respectively. Tanabu B and C tephra are both derived from Osore-zan volcano located in the north part of Shimokita Peninsula. Two marine terraces named Toei and Kabayama from upper to lower have been formed before and after the depositions of Tanabu B and C tephra. In previous studies, the ages of Tanabu B and C tephra have been not determined precisely, resulting in two interpretations that the ages of Toei and Kabayama Terraces are MIS 9 and MIS 7, or 203-212 ka and 163-169 ka. Due to the isotope stratigraphic study by Domitsu et al. (2010), two tephra layers found at 141.2 mbsf and 146.6 mbsf are positioning in MIS 7. This will constrain the ages of Toei and Kabayama Terraces. A vitric tephra found at 154.8 mbsf is similar to Shiobara-Otawara tephra in the chemical composition of glass shards. Previous study concluded that Shiobara-Otawara tephra was derived from Shiobara caldera in the north part of the Tochigi Prefecture at 300-330 ka as a large ignimbrite and a plinian pumice fall deposit distributing with NNE axis. However, the age estimation (250 ka) by the isotope stratigraphic study by Domitsu et al. (2010) shows that the vitric tephra found at 154.8 mbsf is younger than that of Shiobara-Otawara tephra. It means that reconsideration of age estimation or correlation is needed.

Keywords: Chikyu, Off Shimokita Peninsula, tephrochronology, Osorezan-Tanabu tephra, Shiobara-Otawara tephra