

## Genesis, emplacement and block rotation of the Taitao ophiolite and its relation to the Chile triple junction tectonics

# Ryo Anma[1]; Andres Eugenio Veloso[2]; Tsuyoshi Komiya[3]; Tsutomu Ota[4]; Shin-ichi Kagashima[5]; Yoshiyuki Kaneko[6]; Masaru Terabayashi[7]; Ryota Endo[8]; Shinji Yamamoto[9]; Takazo Shibuya[10]; Yoshiaki Kon[11]; Toshitsugu Yamazaki[12]; Tohru Danhara[13]; Yuji Orihashi[14]

[1] Life-Environment, Tsukuba Univ.; [2] Life and Environmental Sci., Univ. Tsukuba; [3] Earth & Planet. Sci., Tokyo Inst. Tech.; [4] ISEI, Okayama Univ.; [5] Earth and Environ. Sci., Yamagata Univ.; [6] Geoscience and Technology, Geological Survey of Japan, AIST; [7] Dept. Safety Systems Construction Engineering, Kagawa Univ.; [8] Life and Environmental Sci., Tsukuba Univ.; [9] Earth and Planetary Sci T.I.T.; [10] Earth and Planetary Sci., T.I.Tech.; [11] Earth and Planetary Sci., Tokyo Tech; [12] GSJ, AIST; [13] Kyoto Fission-Track; [14] ERI, Univ. Tokyo

Late Miocene - Pliocene Taitao ophiolite is composed of a complete sequence of classic oceanic lithosphere and exposed ~50 km southeast of the Chile triple junction where the Chile ridge subducts beneath the South American plate. Gabbros and ultramafic rocks are folded into a complex pattern, whereas only evidence for post-emplacement block rotation was found in the overriding sheeted dike complex and volcanic rocks. We applied SHRIMP U-Pb and fission track dating methods on zircon crystals separated from gabbros and sheeted dikes. Two sets of radiometric ages of gabbros range between 5.9 ± 0.4 Ma and 5.6 ± 0.1 Ma. These ages coincide within error ranges and imply rapid intrusion and cooling of gabbros. U-Pb age of a dacite dike intruded into the sheeted dike complex was determined to be 5.2 ± 0.2 Ma. Our data indicate that the magmas of the Taitao ophiolite were formed during the 6 Ma Chile ridge collision event and emplaced in a shorter period than previously thought. A short segment of the Chile mid-oceanic ridge must be emplaced during the 6 Ma event.