

トンガ産迷子巨礫とその粘性残留磁気：予察

猪野 楓 [1]; # 中村 教博 [2]; 佐藤 哲郎 [3]; 後藤 和久 [4]; Vaiomounga Rennie[5]; クッラ ターニエラ [6]

[1] 東北大・理・地学; [2] 東北大・高教機構; [3] 東北大・理・地学; [4] 東北大・災害研; [5] トンガ国・国土天然資源省;
[6] なし

Preliminary result of Paleomagnetic Viscous Dating of erratic boulders in Kingdom of Tonga

Kaede Ino[1]; # Norihiro Nakamura[2]; Tetsuro Sato[3]; Kazuhisa Goto[4]; Rennie Vaiomounga[5]; Taaniela Kula[6]

[1] Geology, Tohoku Univ.; [2] IEHE, Tohoku Univ; [3] Earth Science, Tohoku Univ; [4] IRIDeS, Tohoku Univ.; [5] Ministry of Lands and Natural Resources, Tonga; [6] Ministry of Lands and Natural Resources, Tonga

In the Kingdom of Tonga, the island of Tongatapu, there are eight huge erratic coral boulders that are on the western coastline near the village of Fahefa. These boulders could only have come from the shoreline, as there are no nearby cliffs or hills. Tongatapu Island is 35-km*20-km and consists of 3000-m-thick marine sediment deposits overlain by coral reef limestone. These boulders contain well-preserved corals, and living corals grow with a distinctly upright orientation. Field survey indicated that two of the boulders are clearly overturned; two are upright but tilted; and the others are upright and normal emplacement. The largest boulder is upright but clearly not attached at its base as it sits on hard rock and has anomalously thin soils compared to soils nearby on Tongatapu. Moreover, these boulders are 10-20-m above sea level and above any possible source, and all are 100-400-m from the present shoreline. Coral ^{230}Th ages indicate that the coral formed during the last interglacial sea-level highstand, ca. 120-130ka. Therefore, it is believed that these boulders had been emplaced by a prehistoric tsunami. However, field evidence and radiometric age are controversial because soils beneath the boulders should be thicker due to its longevity of the emplacement. Thus, we need to determine the emplacement age and its emplacement mode of the boulders. Here we report preliminary results of the application of paleomagnetic viscous dating to the boulders. The coral boulders possess a measurable intensity of magnetic remanence by a spinner magnetometer. Our thermal demagnetization result of the largest boulder showed that paleomagnetic orientation of characteristic remanence indicates 150 degrees westerly horizontal rotation. In this presentation, we will show results of paleomagnetic viscous dating of these boulders.