

ABISMOがマリアナ海溝チャレンジャー海淵で採取した堆積物コアのマフィック鉱物

Mafic minerals within a sediment core sampled by ABISMO in Mariana Trench

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Mariana Trench is one of the deepest oceans in the world more than 10,000 m depth. Although the mantle section outcrops along the land-side slope of the southern Mariana Trench, the studied depth so far is approximately shallower than 7,000 m and therefore few geological information is available for the mantle section deeper than 7,000 m. In 2008, a sediment core has been sampled at 10,350 m in Challenger Deep of Mariana Trench by ABISMO (Automatic Bottom Inspection and Sediment Mobile) during KR08-05 cruise. The sediment core is 161.5 cm in length and contains mafic sandy grains such as olivine and spinel. In this study, we sampled the mafic minerals from the sediment core and analyzed their major element compositions. As a result, the chemical compositions of the mafic sandy grains were compatible with those of mafic minerals within the peridotites along the land-side slope of Mariana Trench shallower than 7,000 m. We will discuss the origin of these sandy grains.

Keywords: ABISMO, Mariana Trench, Challenger Deep, sediment core, spinel, olivine