

PGE and Os isotope variation in the gabbros and peridotites from the Oman DP drilling cores in the Samail ophiolite, Oman

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It is well known that oceanic crust covers almost 70 % of Earth's surface. It is formed at mid-ocean ridge and is subducted into mantle at convergent plate margin. This plate motion is pulled many kinds of surface materials into the mantle and contributed to a global recycling system. However the details of the oceanic crusts and underlain upper mantle are still poor understanding. The construction of the oceanic crusts is defined by constructions of ophiolites which were the ancient oceanic plates exposed onto land.

To have better understandings of the oceanic crust, underlain upper-most mantle and related other things, the Oman Drilling Project by ICDP was done the drilling from 2016 to 2018 in Samail ophiolite, Oman. The Samail ophiolite in the northern part of Oman is the largest and having better exposed section of the oceanic lithosphere in the world.

We will report the preliminary results of the PGE abundances and Os isotope ratios in the whole-rock gabbros and mantle related peridotites from the drilling cores and comparing to the data from the Oman surface data. These data will help us to better understanding of the relationships between the oceanic crust and underlying upper mantle, mechanisms of making oceanic crust, and planning the future Mohole projects.

キーワード：オマーン掘削プロジェクト、はんれい岩、かんらん岩、オスミウム同位体組成、白金族元素存在度

Keywords: Oman DP, gabbro, peridotite, Os isotope ratio, PGE abundance