

ロシア・バイカル湖湖底堆積層の化学状態と堆積記録 Chemical states and sedimentary records of Lake Baikal sediment.

村上 拓馬^{1*}, 勝田 長貴², 高野 雅夫³, 山本 鋼志³, 高橋 嘉夫⁴, 中村 俊夫⁵, 河合 崇欣⁶

MURAKAMI, Takuma^{1*}, KATSUTA, Nagayoshi², TAKANO, Masao³, YAMAMOTO, Koshi³, TAKAHASHI, Yoshio⁴, NAKAMURA, Toshio⁵, Takayoshi Kawai⁶

¹ 金沢大学環日本海域環境研究センター, ² 岐阜大学教育学部, ³ 名古屋大学大学院環境学研究科, ⁴ 広島大学大学院理学研究科, ⁵ 名古屋大学年代測定総合研究センター, ⁶ (社)国際環境研究協会

¹Institute of Nature and Environmental Technology, Kanazawa University, ²Faculty of Education, Gifu University, ³Graduate School of Environmental Studies, Nagoya University, ⁴Graduate School of Science, Hiroshima University, ⁵Center for Chronological Research, Nagoya University, ⁶Association of International Research Initiatives for Environmental Studies

Lake Baikal occupies the largest water volume in the world's freshwater lakes, and is located in the eastern part of Eurasian continent. The Lake Baikal sediment contains a detailed record of paleo-environmental changes in the deep continental interior. In this study, we analyzed the abundance of chemical compositions in the sediment core from the Lake Baikal. In addition, to investigate redox conditions in core BSS06-G2, we determined the Mn oxidation state, Mn in the sediment. The sediment Mn oxidation state was determined based on the Mn K-edge x-ray absorption near-edge structure (XANES) spectra captured using a synchrotron radiation beam. From the geochemical evidences, it is suggested that the BSS06-G2 U have almost never mobilized with changes in the post-depositional redox condition. Therefore, distributions of the uranium concentration in sediment can be regarded as a primary sedimentary record of Lake Baikal region and their variations were revealed to synchronize with paleo-environment changes in the North Atlantic Ocean.

キーワード: バイカル湖, 湖底堆積物, ウラン, XANES, 古環境変動

Keywords: Lake Baikal, Lacustrine sediment, Uranium, XANES analysis, Paleo-environmental change