[JJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-TT Technology & Techniques

[M-TT37]Frontiers in Geochemistry

convener:Urumu Tsunogai(Graduate School of Environmental Studies, Nagoya University), Yoshio Takahashi(Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo), Tsuyoshi Iizuka(東京大学)

Sun. May 20, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

Many new findings in earth and planetary sciences have been obtained by using state-of-the-art techniques supported by new technical development in analytical chemistry. This session aims at providing an opportunity for those developing new analytical methods to get together and have a strategic discussion on frontiers in geochemistry and cosmochemistry. We welcome a wide range of cutting-edge geochemical topics based on technical development, which have a potential for breakthrough of earth and planetary sciences. Besides, topics related to the direction of geochemistry and cosmochemistry in future are also welcome. Especially, we welcome topics which present how to install/maintain precious facilities in geochemical laboratories. We expect wide-ranged and future-oriented discussion to develop geochemistry and cosmochemistry.

[MTT37-P05]Challenges in quantifying triple oxygen isotopic compositions of nitrate in subtropical surface oceans

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Keywords:nitrate, triple oxygen isotopic compositions, surface seawater, subtropical ocean

In this study, we challenged to quantify triple oxygen isotopic composition (^{17}O-excess) of nitrate in nutrient-poor subtropical surface seawater. ^{17}O-excess of low level nitrate in the water sample has been determined by adding nitrate standard of already-known oxygen isotopic compositions in each sample. By using this internal standard method, we successfully determined the ^{17}O-excess of dissolved nitrate in surface seawater with its concentration ranging from 0.1 to 0.5 μmol/L and observed high ^{17}O-excess of +4.7±2‰ in dissolved nitrate of surface seawater samples collected in the western north pacific. The result indicates that atmospheric nitrate deposited on the surface seawater account for 10%~25% of the total dissolved nitrate in the samples.