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[JJ] Evening Poster | S (Solid Earth Sciences) | S-GC Geochemistry

## [S-GC46]Solid Earth Geochemistry, Cosmochemistry

convener:Gen Shimoda(Geological Survey of Japan, AIST), Katsuhiko Suzuki(Research and Development Center for Submarine Resources, Japan Agency for Marine-Earth Science and Technology), Katsuyuki Yamashita(岡山大学大学院自然科学研究科, 共同), Akira Ishikawa(Department of Earth Science and Astronomy, The University of Tokyo)

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"Solid Earth Geochemistry, Cosmochemistry" session aims at evaluating processes during the 4.6 billion years of the solar system and the Earth. Any approaches to this issue is welcomed, including, geochemistry, geophysics, geology, mineralogy and petrology.

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## [SGC46-P01]Rapid determination of whole-rock major, minor and trace element concentration for silicate, carbonate and phosphate rocks by ICP-SFMS

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Keywords:major element analysis, trace element analysis, ICP-SFMS

A simple analytical method for the determination of whole-rock major, minor and trace element composition by sector magnetic field type inductively coupled plasma-mass spectrometer (ICP-SFMS) using fused-glass bead (sample + lithium tetraborate) has been developed. This method is particularly useful for rapid but quantitative evaluation of sedimentary sections comprised of variable mixture of silicate, carbonate and phosphate minerals. The fused-glass beads were prepared after LOI (loss on ignition) evaluation, and were properly dissolved into a diluted nitric acid with internal standard elements (In and Bi). The analytical procedure using ICP-SFMS at low, middle and high resolution mode was optimized and evaluated through analyses of sedimentary (JDo-1, JLS-1, JCp-1, NIST694, and JCh-1) and granitic reference materials (JG-1a, JG-2 and JG-3). The results demonstrate that the whole-rock major (Si, Ti, Al, Fe, Mn, Mg, Ca, Na, K and P), minor (Sc, V, Cr, Co, Ni, Cu, Zn and Ga) and trace element compositions (Rb, Sr, Y, Zr, Nb, Cs, Ba, REE, Hf, Ta, Pb, Th and U) of wide-variety of sedimentary rocks were reasonably quantified with the analyses of ICP-SFMS using a standard solution prepared from basaltic reference materials such as JB-3.