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Isotope analysis of sulfur, bromine and chlorine in individual anionic species by ion chromatography/ multi-collector-ICPMS

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In this work, we developed an analytical method for precise and accurate analysis of δ34S, δ81Br, and δ37Cl in individual anionic species by coupled ion chromatography (IC) and multi-collector inductively coupled plasma mass spectrometry (MC-ICPMS). The method is based on the online separation and purification of ions by IC prior to their isotope analysis by MC-ICPMS. The developed technique significantly simplifies δ34S, δ81Br, and δ37Cl analysis in environmental samples. In cases when several anionic species of the same element are present in the sample, they might be analyzed in a single analytical run. The description of the method will be presented as well as examples of the applications to environmental studies such as isotopic analysis of perchlorate and different sulfuric species.

Biography

Yevgeni Zakona is a PhD candidate at Hebrew University of Jerusalem, Israel. He has been working in the field of Mass Spectrometry for 10 years specializing in ICPMS (Inductively Coupled Plasma Mass Spectrometry). For the last four years, he is the Isotopic Lab Manager in Department of Geochemistry at Geological Survey of Israel.

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