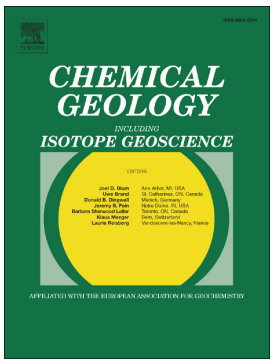

Hydrogen and oxygen stable isotope signatures of goethite hydration waters by thermogravimetry-enabled laser spectroscopy

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Hydrogen and Oxygen Stable Isotope Signatures of Goethite Hydration Waters by Thermogravimetry-Enabled Laser Spectroscopy

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Keywords

Stable isotope hydrology, paleoclimatology, dehydroxylation, mineral-water fractionation, hydrous minerals

Highlights

TGA-IRIS system enables fast and precise δ^2H and $\delta^{18}O$ measurements of liquid samples and mineral hydration waters.

TGA-IRIS approach does not require laborious and hazardous sample processing.

TGA-IRIS enables the determination of Fe-OH $\delta^{18}O$ values and fractionation factors that have not been accessible until now

Abstract

The hydrogen and oxygen stable isotope composition (δ^2H and $\delta^{18}O$ values) of mineral hydration waters can give information on the environment of mineral formation. Here we present and validate an approach for the stable isotope analysis of mineral hydration waters