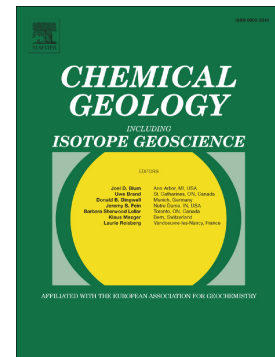


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Hydrogen and Oxygen Stable Isotope Signatures of Goethite Hydration Waters by  
Thermogravimetry-Enabled Laser Spectroscopy

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### Keywords

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

### Highlights

TGA-IRIS system enables fast and precise  $\delta^2\text{H}$  and  $\delta^{18}\text{O}$  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  $\delta^{18}\text{O}$  values and fractionation factors that have not been accessible until now

### Abstract

The hydrogen and oxygen stable isotope composition ( $\delta^2\text{H}$  and  $\delta^{18}\text{O}$  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

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