



Metrology and stable isotope analysis: Are we doing the right job?

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Presently most stable isotope data are reported with a precision, a repeatability or with an error. Also terms such as precision and accuracy are used by some with a similar meaning. In metrology, however, the preferred term to use is uncertainty. Uncertainties related to calibration and/or standards, preparation steps (including preparative reactions), corrections, mass spectrometry measurement of the analyte gas, and eventually more factors have to be considered and to be propagated to a combined uncertainty that is tied to the corrected delta value. It will be discussed briefly when and where a proper combined uncertainty is required and in which cases it is less critical. Additionally, traceability of measurements to international scales is discussed. Examples will be given for the proceedings as discussed above.