

## ***Interactive comment on “New on-line method for water isotope analysis of speleothem fluid inclusions using laser absorption spectroscopy (WS-CRDS)” by S. Affolter et al.***

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Dear All,

I would have some suggestions for the revision of the paper.

1) Citations. There have been soem papers published on the use of laser spectroscopy for water extracted from minerals. I would suggest to cite them

- G. Koehler, L. I. Wassenaar. Determination of the Hydrogen Isotopic Compositions of Organic Materials and Hydrous Minerals Using Thermal Combustion Laser Spectroscopy. Analytical Chemistry 2012, 84, 3640. - D. A. Hodell, A. V. Turchyn, C. J.

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Interactive Discussion

Discussion Paper



Wiseman, J. Escobar, J. H. Curtis, M. Brenner, A. Gilli, A. D. Mueller, F. Anselmetti, D. Ariztegui, E. T. Brown. Late Glacial temperature and precipitation changes in the lowland Neotropics by tandem measurement of d18O in biogenic carbonate and gypsum hydration water. *Geochimica et Cosmochimica Acta* 2012, 77, 352. - Demény A & Czuppon G (2013): Developments in hydrogen and oxygen isotope analyses of inclusion-hosted waters using laser spectroscopy: domination of crustal fluids in the forming of the Yungul-Willmott fluorite deposit, NW Australia. 12th Stable Isotope Network Austria (SINA) Meeting. Graz, Ausztria, 2013 - Demény A & Czuppon G (2013): A Novel Method of Stable H and O Isotope Analyses of Inclusion-Hosted Waters Based on Laser Spectroscopy. *Mineralogical Magazine*, 77(5) 970

2) Heating to 140 oC. It is possible that you were lucky with the Borneo stalagmite, but the preheating to 140 oC sounds too high for me. I have observed partial decrepitation even at 80 oC (actually it could be inclusion stretching and diffusion), shifting the isotopic compositions in positive directions.

3) Productivity. 2-5 hours per sample means that the method has much less productivity than for example the procedure described by Vonhof et al. (2006) or Arienzo et al. (2013).

4) Data verification. You have measured only two stalagmites. For the one from Borneo no dripwater data are available, and we don't know whether the Borneo dripwaters really follow the Global Meteoric Water Line, or this is just accidental agreement. The Swiss sample gave 1 permill lower d18O than the dripwater composition.

Analysing more samples with "known" isotopic compositions would be desirable.

Since Arienzo et al. have already described a PICARRO-based method, I think this paper should be extended with more samples analysed.

Best regards, Attila Demeny

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Interactive comment on *Clim. Past Discuss.*, 10, 429, 2014.

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