

Interactive
Comment

Interactive comment on “First measurements of continuous $\delta^{18}\text{O}\text{-CO}_2$ with a Fourier Transform InfraRed spectrometer in Heidelberg, Germany” by S. N. Vardag et al.

Anonymous Referee #2

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This paper describes the extension of a previously published FTIR instrument and data analysis method (e.g. Hammer et al., AMT, 2013) to the measurement of $\text{d}18\text{O}\text{-CO}_2$. High precision measurements of stable isotopes are arguably very useful to constrain the CO_2 sources and sinks, and FTIR with its multicomponent capability a very attractive approach. The progress that has been achieved with respect to the precision and stability using FTIR for atmospheric measurements are impressive, and the evaluation of the method for $\text{d}18\text{O}\text{-CO}_2$ is, therefore, highly welcome. However, to date, $\text{d}18\text{O}\text{-CO}_2$ is certainly the most challenging parameter to be measured in this FTIR setup, and it is not surprising that the original assessment by Esler et al. (2000)

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was very critical. While the paper by Vardag et al. is generally well written and shows promising results for d18O-CO₂, it lacks rigor, detail and a more critical spirit to be published in its present form. I, therefore, suggest major changes and a final decision based on the reviewed paper.

Please also note the supplement to this comment:

<http://www.atmos-meas-tech-discuss.net/7/C1865/2014/amtd-7-C1865-2014-supplement.pdf>

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 6501, 2014.

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