

Interactive comment on “A liquid nitrogen-free preconcentration unit for measurements of ambient N₂O isotopomers by QCLAS” by J. Mohn et al.

Anonymous Referee #3

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General

This paper reports a sophisticated N₂O preconcentration device which is applicable to laser spectroscopy and other concentration/isotope analytical system for trace gases. Although it is developed using not brand-new techniques, it would be useful for many scientists and therefore worth publishing. I hope the authors also present supplemental information such as software codes together this paper or elsewhere, if they can.

Detail

P3105: How did the authors remove less volatile components which could be trapped
C1222

together with N₂O? I think they could be retained on the adsorbent at -50C and interfere with quantitative trapping of N₂O or QCLAS analysis of later runs.

P3106 L25-26: What kind of correction was applied?

P3114 L3-5 and Fig. 5: Are “preconcentrated ambient air” and “gas matrix after preconcentration” the same? If N₂O in ambient air is concentrated by the preconcentration device, it should of course contain N₂O. I am confused whether the black curve in Fig. 5a shows perfect recovery of N₂O (thus no N₂O in the residual matrix) or amount of N₂O in the ambient air is very small even if it is concentrated by the device.

P3122 Fig. 1: What is the function of “nafion 2”? Is it necessary?

Interactive comment on Atmos. Meas. Tech. Discuss., 2, 3099, 2009.