

Interactive comment on “Evaluating calibration strategies for isotope ratio infrared spectroscopy for atmospheric $^{13}\text{CO}_2/^{12}\text{CO}_2$ measurement” by X.-F. Wen et al.

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Response to the reviewer (S. Guillon)

General Comments 1) The authors didn't mention any temperature dependence of the IRIS measurement. We measured such a dependence with the Los Gatos Research analyzer DLT-100, which is one of the instruments used in this article. We found that a 4deg temperature variation in the room where the analyzer is run induces a 0.2deg variation in the analyzer cell temperature, and 30 ppm and -2.6 ‰ errors on CO₂ mixing ratio and delta value, respectively (Guillon et al., 2012, App. Phys B, Fig. 6). As IRIS analyzers can't always be used in a laboratory having air conditioning and stable

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temperature, we think the error induced by this temperature dependence should be considered.

Thank you for this suggestion. Clarified. “Sensibility to changing environmental conditions (e.g. temperature dependence; Guillon et al., 2012) and dependence of $\delta^{13}\text{C}$ on CO₂ concentration are the two main sources of error affecting the IRIS measurements.”

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