

Atmos. Meas. Tech. Discuss., author comment AC1 https://doi.org/10.5194/amt-2022-118-AC1, 2022 © Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.

Reply on RC1

Yunsong Liu et al.

Author comment on "Improvements of a low-cost CO₂ commercial nondispersive nearinfrared (NDIR) sensor for unmanned aerial vehicle (UAV) atmospheric mapping applications" by Yunsong Liu et al., Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2022-118-AC1, 2022

Dear Prof. Grant Allen,

Thank you very much for your helpful review.

This study presents the development and validation of a novel portable CO_2 measuring system suitable for operations onboard small-sized UAVs. This system has a fast response time (1 Hz) and a relatively high precision (±2 ppm 1 σ at 1 Hz) to make it have the capacity to monitor emission plumes, and characterize their spatial and temporal distribution. Our revision following the two reviewers' comments tends to reinforce our statements about the importance of careful tests and calibrations to obtain measurements of sufficient precision.

Please find my detailed reply to each comment in the attached file.

Please also note the supplement to this comment: <u>https://amt.copernicus.org/preprints/amt-2022-118/amt-2022-118-AC1-supplement.pdf</u>