

Interactive comment on “Assessment of recent advances in measurement techniques for atmospheric carbon dioxide and methane observations” by Christoph Zellweger et al.

Anonymous Referee #1

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General comments: This study presents a comparison between historically used methods to measure CO₂ and CH₄ (NDIR and GC mostly) and new techniques such as CRDS, OA-ICOS or FTIR with a focus on Picarro CRDS. They show that the new techniques lead to improved accuracy with reduced bias and representativity of the data. The paper focuses on four sites where the comparisons took place but also uses data from comparing tank measurements that are more numerous. The results are very interesting to many users that will have to transition from "older" to "newer" techniques. The referee recommends publication in AMT.

I only have two questions: Page 4 l9: Could you briefly detail the Empa method? At some point later, there is a mention of a droplet test, is that what you do? Page 11 l11

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to17: Did you recalculate the slope of the comparison when restraining your dataset to the cylinders with concentrations within the station calibration set range? Does that change the results towards the compatibility goals? It seems to me that station PI would appreciate to know if within the range they meet the compatibility goals and not just that they don't on a broader range.

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