

## ***Interactive comment on “Recent advances in measurement techniques for atmospheric carbon monoxide and nitrous oxide observations” by C. Zellweger et al.***

### **Anonymous Referee #2**

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The manuscript “Recent advances in measurement techniques for atmospheric carbon monoxide and nitrous oxide observations” by Zellweger et al. presents comparison data collected through the WMO GAW WCC station audits for CO and N<sub>2</sub>O. The WMO GAW program has set strict network compatibility goals to ensure data from various monitoring sites and programs are consistent and that biases in the data will not unduly influence scientific interpretation of the data. Network compatibility is a difficult parameter to assess. One tool for assessing it is the station audits conducted by the WCC’s. While these are snapshots in time, they are a very rigorous comparison and provide valuable information on the consistency of data from various sites and networks. The data presented in this manuscript is valuable information for

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determining the significance of spatial gradients observed when data from various sites and monitoring programs are combined. In addition, the authors have used the comparison data from the audits to clearly show the advantages of newer analytical techniques and to point out areas that need further improvements. This should be of high interest to many involved in atmospheric monitoring. I recommend publication of this manuscript with a few minor suggestions to improve the document. Please see the attached pdf file for specific comments.

Please also note the supplement to this comment:

<https://www.atmos-meas-tech-discuss.net/amt-2019-108/amt-2019-108-RC2-supplement.pdf>

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Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2019-108, 2019.

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