

Atmos. Meas. Tech. Discuss., referee comment RC2
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Comment on amt-2020-481

Britton Stephens (Referee)

Referee comment on "Intercomparison of O₂/N₂ ratio scales among AIST, NIES, TU, and SIO based on a round-robin exercise using gravimetric standard mixtures" by Nobuyuki Aoki et al., Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2020-481-RC2>, 2021

This paper represents an important breakthrough for the global carbon cycle community, for the first time firmly establishing relative differences between key international d(O₂/N₂) scales and strong support for small span uncertainties. This will lead to more robust estimates of the global partitioning of land and ocean sinks, and improved ability to compare independent d(O₂/N₂) measurements made around the world.

The paper is technically sound and well written. I have made suggested edits in the attached pdf file. Most of these are typographical or grammatical in nature and point by point responses are not needed. In several places I have also indicated where edits might improve the clarity of the presented information. I recommend publication after the authors have considered these suggestions.

Please also note the supplement to this comment:

<https://amt.copernicus.org/preprints/amt-2020-481/amt-2020-481-RC2-supplement.pdf>