Atmospheric Chemistry and Physics Discussions

Atmos. Chem. Phys. Discuss., referee comment RC2
https://doi.org/10.5194/acp-2022-452-RC2, 2023

Comment on acp-2022-452

Anonymous Referee #2

Referee comment on "High accuracy calculation and data quality evaluation of ship emissions based on the sniffer method" by Letian Zhu and Fan Zhou, Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2022-452-RC2, 2023

Current literature has substantial emission factors for shipping emissions. But these factors are not constant due to developing machine technology and by the shift of fuel content. For example, sulphur dioxide emissions cannot be represented well by the current emission factors. Therefore, the necessity of improving emission factors is obvious. For that reason, I find the study topic useful for the scientific community. In this study, the authors utilised the sniffer technique. The study also aims to target to reduce some uncertainties due to the known drawbacks of the technique. The strengths and limitations of the method are defined.

In my point of view, the methodology has too many assumptions and is quite complex. Therefore, the findings should be verified by a conventional measurement method. Unless it is not easy to decide whether the findings are accurate or not. After incorporating such a cross-check result, the paper can be considered for publication in ACP.