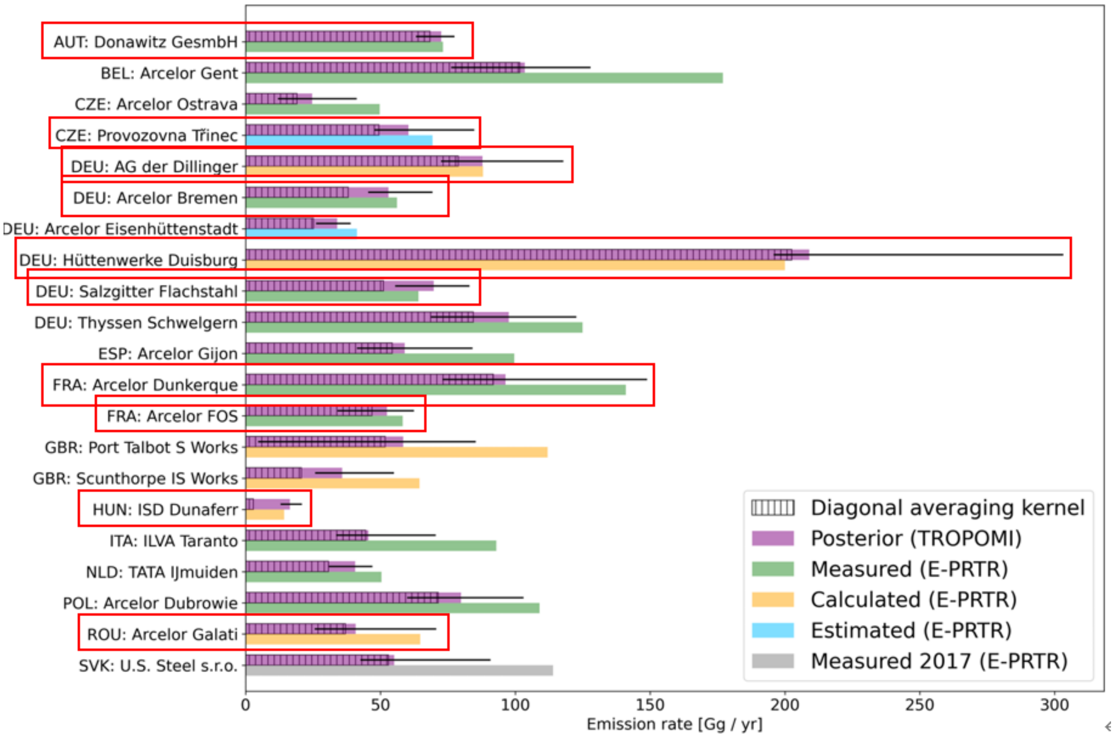
This paper describes an analytical inversion to estimate emissions from several plants from the TROPOMI. It also briefly compares with the other two algorithms and find agreement between the inversion results and emissions by CSF method. The combination of the WRF model and the analytical inversion approach for deriving fluxes incurs substantial costs. The amount of work needed to derive fluxes for each industrial source if this is employed is quite computationally expensive. I am not sure this has general applicability. The CSF method is typically utilized. Compared to the CSF method, the combination of the WRF model and the analytical inversion approach does not seem to demonstrate additional advantages. The paper is nicely organized and results summarized well. Some key issues:

(1) I would like to know how many plumes from each of these 21 plants in 2019 can be used to calculate flux.
(2) Clarify the applicable scenarios for the inversion approach, such as beneficial observation conditions.
(3) How is the plume emission height taken into account in all the methods applied in this paper? For example, when using the CSF method, the authors employed the 10-meter wind field from ERA5 to estimate emissions, which might be inaccurate. The emission plumes from steel plants could reach several hundred meters in altitude.
(4) Line 83: I am not sure why the authors are using Data Quality Value (QA Value) below 0.7?
(5) Line 255: Which specific area do the simulated concentrations above the iron and steel plants refer to? It's not clearly indicated in the figure. It would be easier to identify if the TROPOMI observations, the prior and posterior simulation were all displayed.
(6) I suggest that the authors include a geographical distribution map of these steel plants.
(7) How is the annual emission rate for each steel plant determined?
(8) In Section 3.2, the authors mention, "Figure 5 shows the comparison of the posterior emission estimates based on TROPOMI with the prior emission rates from E-PRTR. Nine out of 21 posterior emission estimates are consistent with E-PRTR within their uncertainty ranges." However, I see that 10 estimates (highlighted in the red box) in Figure 5 are consistent with E-PRTR within their uncertainty ranges, not nine.



(9) In Section 3.2, the authors also mention that 10 posterior estimates are within 20% of the reported values. This result is not easily discernible from Figure 5. I suggest marking these 10 steel plants, as well as the 9 steel plants mentioned in the previous comment, separately.