This is an excellent manuscript describing TROPOMI NO2 variability and correlation with surface measurements in the Iberian Peninsula. Although I have provided many suggestions, most of them are very minor and should be easy to address. One small weakness is that the writing is a bit long-winded at times, and there are opportunities to shorten. I have noted several examples of text that could benefit from shortening.

I am also surprised that the authors have limited discussion on interannual trends in the paper. We now have 4 years of May - Dec data from TROPOMI. Perhaps something like this could be discussed in Section 3.5? For example, are we seeing lower values in 2021 than 2018? We know the answer is yes for 2020 based on other literature and perhaps that should be mentioned briefly, but how about in 2021? It seems like that's an important aspect that is missing from this paper. This would constitute my one "major" comment.

Minor comments:
Line 23. Remove "all in all"

Line 30. Add the word "fossil-fuel" or "NOx" in front of the word "emissions"

Line 30. Not sure why the word "essentially" is used. Suggest removal. Or add a short phrase about low-cost monitors.

Line 53. Add guideline value (5.3 ppb or 10 ug/m3)

Line 61. Maybe add a few references that discuss uncertainties of NOx inventories in Europe. Pope et al., 2022, Zara et al., 2021, Goldberg et al., 2021 could be cited here.

-Pope, R. J., Kelly, R., Marais, E. A., Graham, A. M., Wilson, C., Harrison, J. J., Moniz, S. J. A., Ghalaieny, M., Arnold, S. R. and Chipperfield, M. P.: Exploiting satellite measurements to explore uncertainties in UK bottom-up NOx emission estimates, Atmos. Chem. Phys., 22(7), 4323–4338, doi:10.5194/ACP-22-4323-2022, 2022.
-Zara, M., Boersma, K. F., Eskes, H. J., Denier van der Gon, H., Vilà-Guerau de Arellano, J., Krol, M., van der Swaluw, E., Schuch, W. and Velders, G. J. M.: Reductions in nitrogen oxides over the Netherlands between 2005 and 2018 observed from space and on the ground: Decreasing emissions and increasing O3 indicate changing NOx chemistry, Atmos. Environ. X, 9, 100104, doi:10.1016/j.aeaoa.2021.100104, 2021.
-Goldberg, D. L., Anenberg, S. C., Lu, Z., Streets, D. G., Lamsal, L. N., E McDuffie, E. and Smith, S. J.: Urban NOx emissions around the world declined faster than anticipated between 2005 and 2019, Environ. Res. Lett., 16(11), 115004, doi:10.1088/1748-9326/ac2c34, 2021.

Lines 80 - 94. Opportunity to make more concise. Mentioning NRTI, RPRO and L1b data are probably unnecessary. For example, mention that PAL is used (one sentence), mention that this is different than the OFFL product (one sentence), mention differences between the two

products (one sentence), and that more details can be found in PUM or ATBD (one sentence). This paragraph could be shortened from 8 sentences to perhaps 4-5.

Lines 108 - 122. Opportunity to make more concise. Current text could be shortened to 2-3 sentences.

Lines 108 - 122. A 1-2 sentence summary of Appendix A and van Geffen et al. 2022 paper should be discussed in this paragraph. Most notably that PAL product yields larger values that the OFFL/RPRO product

Line 155. Mention the word “fertilizer” to be more explicit.

Line 168. No need to mention vertical level information if you are only using near-surface variables

Line 216. Add word “long-term” before the word “values”. I believe you are referring to the maximum of the May 2018 - Dec 2021 average, and not the daily maximum.

Figure 1, 2, 3 captions - Please mention that the oversampled images are a May 2018 - Dec 2021 average.

Line 228 - Worth mentioning in this sentence the potential for this pixel to be an artifact of snow/clouds (as discussed in Appendix D)

Line 249. Need 1-2 clarifying sentences inserted here to describe Figure 4, and why it was generated. It’s not exactly clear what point you are trying to make with Figure 4. I think Lines 252 - 256 are referring to Figure 4, but this isn’t clear.

Line 255. Remove the word “too”. Also what is meant by “limited number of points”? I think you mean to say that “averaging reduces the sample size”.

Lines 258 - 269. Opportunity to make more concise. This could probably be shortened to 1-3 sentences.

Line 303. I see a weekly cycle in Figure 7, in that soil NOx emissions are largest on Fridays. Is this driven by a fertilizer application cycle? It does not seem that meteorological variability is the cause.

Line 310. I also see a slight uptick on Thursday. It would be interesting to see if the TomTom data also shows upticks on Tuesdays (and Thursdays). Do you have access to any traffic data?

Figure 6. If there’s room, if you can change S-NO2 to Surface-NO2 in the top label that may bring more clarity. Maybe this will mean 4 rows of text for the top label instead of 3. In the

figure caption, the order of “d” and “dop” are swtiched. “Top” is listed in the third column but mentioned as the fifth in the caption.

Line 419. What are the units person.d?

Section 3.5.3. What is the main takeaway point of this Section? It is not clear to me. Based on the current text, I would suggest removal of this section, but perhaps I am missing the point.

Figure 10. Same comment as Figure 6. If there’s room, if you can change S-NO2 to Surface-NO2 in the top label that may bring more clarity.

Lines 480 - 489. Opportunity to make more concise. These 5 sentences could probably be 2 or 3 sentences instead.