

Atmos. Chem. Phys. Discuss., referee comment RC1  
<https://doi.org/10.5194/acp-2021-342-RC1>, 2021  
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## Comment on acp-2021-342

Anonymous Referee #2

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Referee comment on "Modelling changes in secondary inorganic aerosol formation and nitrogen deposition in Europe from 2005 to 2030" by Jan Eiof Jonson et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-342-RC1>, 2021

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The manuscript by Jonson et al is investigating the effects of NH<sub>3</sub> emissions on the deposited amounts of reduced ammonia. The authors provide sufficient explanation of the results and helpful visual context (figures) to support their claims. The manuscript is within the scope of ACP and deserves to be published after minor (mostly technical) corrections.

### General comments:

There are inconsistencies in the use of different types of subscripts for NO<sub>x</sub>, SO<sub>x</sub> etc. There are different types of quotes used in different parts of the manuscript. The manuscript needs a thorough read and correction of grammar and syntax.

This may not be important, but there is no EU28 anymore since the exodus of the UK from EU. What the authors mean by the term is clear now (in the year 2021), but might not be for future readers. I suggest that the term EU28 is defined before first use. It can then remain in the text as is.

### Specific comments:

P2 L28: There is no Appendix B.

P2 L44: dot (.) missing after sulphate.

P2 L51: sulphat -> sulphate (missing e)

P3 L80: Either ``both these studies" or ``These two studies"

P3 L80: Provide some numbers to support your claim.

P4 L87: Either ``...nitrogen can also have acidifying impacts in ecosystems...", or ``nitrogen can also cause acidification of ecosystems..."

P4 L107: There is no appendix B.

P4 L109-115: This needs a bit of discussion: how do the ECLIPSEv6a emissions compare

to the EMEP emissions for the countries that they were replaced? Are there significant differences? How do you account for the discontinuity of emissions between the datasets? What do you use for emissions for 2017 for the other countries?  
P5 L150: Provide number of the portion that leaves the model domain.

Table 1 caption: The (Em.) and (Dep.) are not used in the table, hence no need to define them. Also, since N. Macedonia and Bosnia H. are defined, GB should also be defined. If by GB you mean Great Britain, you should probably change it to UK to be also consistent with Table 3.