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Interactive comment on "Nitrification of the lowermost stratosphere during the exceptionally cold Arctic winter 2015/16" *by* Marleen Braun et al.

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We thank Adrian Tuck for his valuable comments, that helped us to improve the manuscript. Our answers are given below. The original comment is repeated in **bold**, changes in the manuscript text are printed in *italic*.

This is a thorough and interesting paper on an important topic. I have some brief comments: the phenomenon has been observed in the Antarctic too, consistent with the notion that the conditions in the outer vortex there in 1987 resembled the inner Arctic vortex as regards potential for PSC formation. The effect was indeed observed in https://doi.org/10.1029/GL017i00453 from the DC-8 in the Arctic winter of 1988/89. Its occurrence in the Antarctic is discussed in

https://doi.org/10.1002/qj.49712353702.

Thank you for pointing us to this interesting aspect. We added citations of both studies to the manuscript and removed the wording "for the first time" from the abstract and conclusion; while GLORIA in fact provides a broad two-dimensional perspective of nitrification of the LMS for the first time, our wording should not be misinterpreted.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2019-108, 2019.