

Interactive comment on “Observation of unusual chlorine activation by ground-based infrared and microwave spectroscopy in the late Arctic winter 2000/01” by T. Blumenstock et al.

Anonymous Referee #2

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The paper presents new column measurements of chlorine activation by two different ground based techniques. The paper is clear, well written, and presents honestly the measurements methods and their uncertainties. The authors propose various hypothesis for such enhancement, focusing on possible heterogeneous reactions of aerosols. I strongly support this hypothesis. I have read the other referee comments, and I am very surprised with its conclusions. For me, the ClO enhancement is obvious on Figure 4, since a significant number of data points are well above the modelling calculations. I think the authors could give a better confidence on the reality of this enhancement by performing a (small) statistical analysis of the discrepancies between measurements

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and modelling calculations. Then, taking into account this comment, I strongly support the publication of this paper.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 9993, 2005.

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