

## ***Interactive comment on “Stratospheric ozone measurements at Arosa (Switzerland): History and scientific relevance” by Johannes Staehelin et al.***

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We would like to thank Referee 2 for his/her careful review and valuable suggestions. The comments of the reviewers are followed by our replies. I found the paper very interesting, as I'm not a specialist in stratospheric ozone so historical details of how some of the researched developed was new to me. Overall the paper is well written and I only saw a couple of minor grammatical errors. It gives a detailed description of how total column ozone measurements were initiated at Arosa with the aim of studying the impact of mountain air on recovery from tuberculosis and eventually contributed to our understanding of the stratospheric ozone layer and the damage being caused to it by our emissions. The story it tells of pressures from competing scientists and institutes or the difficulties in maintaining funding, illustrate the ways in which science develops

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in the face of many challenges. It highlights the importance of maintaining high-quality and long-term measurement facilities as the information they give can evolve with time as we become aware of new processes the consequences of human activity. The site is of continued importance for studying the impact of climate change on ozone as well as other factors. My only suggestion would be that the abstract could possibly put a greater emphasis on the value of the historical measurements and continuing them into the future, in the light of climate change. Our reply: We tried to adapt the Abstract accordingly Grammatical notes are in the attached pdf. Our reply: We changed the manuscript accordingly. We also improved some formulations. We thought about the remark of the referee: Could you add a couple of sentences to outline the basic operation of these types of instrument and why the Umkehr was such a significant improvement? Not all readers may be familiar with the optical methods used to measure total column ozone. Our reply: In Section 2.3, third paragraph we slightly extended the text and we added a new Figure (Figure 5 in the revised manuscript) to provide a short summary of Dobson spectrophotometry (total ozone as well as Umkehr) for those readers not familiar with these instruments. However, we found that adding more text is more problematic because the paper is structured following the historical evolution of the institution and does not contain a section describing methods.

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