Atmospheric Measurement Techniques Discussions

Atmos. Meas. Tech. Discuss., author comment AC2
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Reply on RC2

Federico Dallo et al.

Author comment on "Calibration and assessment of electrochemical low-cost sensors in remote alpine harsh environments" by Federico Dallo et al., Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2020-483-AC2, 2021

Berkeley, 6 July 2021, Federico Dallo on behalf of all co-authors

Referee #4: "Highlight that the selected sensor are actually sensitive to NO2 (also) ..."
Reply: We added in the main text (section 2.3) a specific indication that the OX-B4 are sensitive to NO2.

Referee #4: "The description of the auxiliary electrode working principle is imprecise."
Reply: We thanks the Referee to point out this. In the Material and Methods we were referring to the Alphasense data-sheet. We changed the text of section 2.3 accordingly to the Referee indications and we moved lines 95-101 to the Supplementary Material.

Referee #4: "Discuss the cost and the long term accuracy of the field calibration. Is the relative stability of the alpine environment beneficial for field calibration robustness?"
Reply: We thank Referee #4 for this interesting question. We included a short paragraph in section 4.2 of the Discussion to briefly discuss this topic that will be further investigated in future work.

Referee #4: "Calibration transfer 'absolute' results."
Reply: This is a very interesting aspect of the work, and we are glad that the referee paid attention to this. The Referee is right, we are considering different case scenarios that simulate the possibility of remotely transferring the calibration parameters between LCSs, but with the assumption that the dependence on the environmental condition would not have change if we have theoretically moved a sensor away from the Col Margherita Observatory. This assumption, that arises in section 3.6.2 lines 293-295, could not be true and will be matter of further investigation. Since this is a very important aspect of the work, we expanded the discussion in 3.6.2 and 4.2 following the indication of Referee #4.