Atmospheric Measurement Techniques Discussions

Atmos. Meas. Tech. Discuss., referee comment RC1
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Comment on amt-2021-433

Anonymous Referee #1

Referee comment on "Long-term behavior and stability of calibration models for NO and NO_2 low-cost sensors" by Horim Kim et al., Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2021-433-RC1, 2022

This manuscript evaluated NO and NO2 sensors' performance during long-term deployments. Calibration models and evaluation metrics are described in detail, supporting relative conclusions. The manuscript is organized well, and this topic is important for the field deployment of air quality sensors. Therefore, I would recommend accepting the manuscript after minor revision.

1. It is good to use the Taylor diagram to show multiple metrics. It will be helpful to describe where an ideal sensor should locate in the Taylor diagram.

2. On Page 5, please explain more about equation 1. It is unclear why the author would like to address relative humidity in this form. In addition, more information is needed regarding the importance of Δt_0.

3. On Page 19-20, the author summarized potential reasons causing the deterioration of sensors and highlighted meteorological events and relative humidity. This paper also discusses the aging of NO_2 sensors but identified ozone O_3 as the major cause (Li et al., Characterizing the Aging of Alphasense NO_2 Sensors in Long-Term Field Deployments). It will be interesting to see why different reasons for sensor aging were identified.