

Interactive comment on “Quantifying TOLNet Ozone Lidar Accuracy during the 2014 DISCOVER-AQ and FRAPPÉ Campaigns” by Lihua Wang et al.

Anonymous Referee #2

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The manuscript titled "Quantifying TOLNet Ozone Lidar Accuracy during the 2014 DISCOVER-AQ FRAPPE Campaigns" intercompares 3 different ozone lidars in the field as well as compares the lidar measurements to in situ sonde and aircraft measurements. The authors do a good job explaining the need for the scientific experiments and discuss the results in a clear and concise manner. Very few minor revisions can be made and are discussed below:

1. Line 159: How are the lidars selective for ozone as other compounds can absorb UV radiation at the wavelengths used here?
2. Line 265: "...overall positive bias..." implies that the ozonesondes are without error.

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It is known that SO₂ can interfere with the electrochemical ozone measurement. Were the ozonesonde data corrected for this artifact in any way? Do you have any reason to believe that SO₂ impacted the measurement (e.g. through proximity to a coal-fired power plant)?

3. Section 3.2: When comparing the lidars with the P3, horizontal distances of up to 11 km were noted, yet horizontal differences were not discussed in this section. Since it is known the sondes do not travel directly upwards, differences between lidar and sondes could be due to real horizontal variability. Please discuss how this impacts the interpretation of your results.

Interactive comment on *Atmos. Meas. Tech. Discuss.*, doi:10.5194/amt-2017-106, 2017.

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