Atmos. Meas. Tech. Discuss., 4, C800–C801, 2011
www.atmos-meas-tech-discuss.net/4/C800/2011/

Atmospheric Measurement Techniques Discussions

Interactive comment on "Detection of HO_2 by laser-induced fluorescence: calibration and interferences from RO_2 radicals" *by* H. Fuchs et al.

Anonymous Referee #2

Received and published: 8 June 2011

This manuscript reports laboratory experiments designed to investigate interferences from organic peroxy radicals (RO2) on HO2 measurements done by the well accepted FAGE technique (Fluorescent Assay by Gas Expansion). While FAGE instruments have been deployed during many field campaigns, a thorough investigation of such interferences was missing from the literature. Indeed, the authors demonstrate that several types of RO2 radicals can interfere during measurements of HO2 and provide solutions to minimize these interferences. This manuscript addresses an important need and is of utmost interest for the scientific community.

The manuscript is clear and well structured. The approach is scientifically sound. High quality experiments have been made and important conclusions have been reached. I strongly support the publication in AMT.

I have a few minor comments that the authors may want to address in the final version of their manuscript:

- P1262 L12-17: Did the authors check that a significant fraction of OH was not lost before exiting the calibration source (reaction of OH with gas-phase impurities/wall reactions)

- P1270 L24-26: The authors indicate that they recently investigated the prompt yield of HO2 from the benzene+OH reaction. How do these results compare to the recommended yield of 65%?

- P1284 L25-27: "...in contrast to assumptions made in the past that the reaction of alkoxy radicals with O2 suppresses the conversion.": Add references

Interactive comment on Atmos. Meas. Tech. Discuss., 4, 1255, 2011.