

Interactive comment on “Distribution of hydrogen peroxide, methyl hydroperoxide and formaldehyde over central Europe during the HOOVER project” by T. Klippel et al.

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We would like to thank both referees for their helpful comments. They both address the usefulness of interpreting measured total peroxide data (ROOH) as predominantly methyl hydroperoxide (MHP), and ask to remain chemically correct and thus skipping the MHP data discussion from the manuscript. Although we agree, that the ROOH measurements are non-specific, we are rather reluctant to skip the whole discussion. The reviewers make a valid point by stating, that it is not correct to name the measured ROOH as MHP. Thus, we will remove methyl hydroperoxide from the title of the paper,

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and rename our measurements throughout the discussion as MHP*, which is a proxy for the true MHP concentration, based on an unspecific measurement of ROOH. We prefer not to follow the suggestion of the referees to compare total ROOH with total modelled ROOH, since the measurement method used is based on stripping all organic peroxides into solution before chemical processing and subsequent detection. They do, however, get stripped with different stripping efficiencies according to their solubility. That means in order to calculate a true ROOH mixing ratio, we would need to know the specific composition of ROOH to account for the different solubilities. Since we do not have that information, we cannot calculate mixing ratios for total ROOH. On the other hand, previous observations and modeling studies as discussed in section 3.1 indicate that MHP is by far the dominant organic peroxide in the free troposphere. Thus we believe, that by assuming that MHP* based on an unspecific measurement of ROOH is mainly MHP is justified. We think, that by changing the labeling of our measurements to MHP, we stay chemically correct and meet the referees request to clearly point out, what assumptions go into the calculations of MHP*.

All other technical comments made by the referees will be properly addressed in the revised manuscript.

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