

Interactive comment on “ACTRIS non-methane hydrocarbon intercomparison experiment in Europe to support WMO-GAW and EMEP observation networks” by C. C. Hoerger et al.

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to Prof. Dr. Nouredine Yassaa Journal of Atmospheric Measurement Techniques (AMT)

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Revised Manuscript Submission to Atmospheric Measurement Techniques (AMT 2014-304)

Dear Prof. Dr. Yassaa,

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We are pleased to submit our Author Comments to the three reviews of our manuscript “ACTRIS non-methane hydrocarbon intercomparison experiment in Europe to support WMO-GAW and EMEP observation networks” (AMT 2014-304) by C. C. Hoerger, A. Claude, C. Plass-Duelmer, S. Reimann, E. Eckart, R. Steinbrecher, J. Aalto, J. Arduini, N. Bonnaire, J. N. Cape, A. Colomb, R. Connolly, J. Diskova, P. Dumitrean, C. Ehlers, V. Gros, H. Hakola, M. Hill, J. R. Hopkins, J. Jäger, R. Junek, M. K. Kajos, D. Klemp, M. Leuchner, A. C. Lewis, N. Locoge, M. Maione, D. Martin, K. Michl, E. Nemitz, S. O’Doherty, P. Pérez Ballesta, T. M. Ruuskanen, S. Sauvage, N. Schmidbauer, T. G. Spain, E. Straube, M. Vana, M. K. Vollmer, R. Wegener, and A. Wenger

We provided the documents with our point-by-point answers to the reviewers’ questions and our modifications of the manuscript. In this manuscript we present an European intercomparison experiment for non-methane hydrocarbons, which were analysed in nitrogen and whole air by 18 different laboratories. The performance of these laboratories was assessed with respect to the ACTRIS (Aerosols, Clouds, and Trace gases Research InfraStructure Network) and GAW (Global Atmosphere Watch) data quality objectives.

We appreciated the overall encouraging comments by the three reviewers and the constructive suggestions. The reviewers pointed out two major issues on which we thoroughly worked. 1) All three reviews stated that our manuscript is too long with some redundant plots and tables and indicated to shorten the manuscript. We considerably shortened the manuscript (the revised manuscript has around 10 A4 less than the submitted version). Several figures and tables were placed in the supplementary material to avoid redundancy/repetition in Table and Figures (e.g. Tables 6-7 and Figures 2-3). Furthermore, two tables (Tables 1 and 5 in the submitted manuscript) were merged into a new one (Table 1 in the revised manuscript). For a better visualization of the results of this intercomparison we added frequency distribution plots, which was an excellent suggestion from J. Rudolph (Reviewer 2). The text was revised, shorted or adapted mainly in the result and discussion section to further strengthen the practice

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outreach of the manuscript. This helped to substantially improve this manuscript. 2) The reviewers indicated the unusual approach of our intercomparison that two laboratories (Hohenpeissenberg (HPB) and Empa) assigned values to the mole fraction of the canisters and subsequently took part in this intercomparison. Originally it was not planned that the reference laboratories' results would be included in the intercomparison evaluation. Later, we decided to add the results of the mid-term analyses by HPB and Empa as these were not used for the determination of the reference values. Furthermore, at the time when the intercomparison took place the reference values had not been determined yet. Nevertheless, in our manuscript we clearly pointed out that HPB and Empa data cannot be treated as purely blind intercomparison results. Additionally, in the revised manuscript we added a sentence where we stated again that the composition and the mole fractions in the cylinders were unknown to all participants, except for the reference laboratories HPB and Empa.

We are thankful for the helpful reviews and believe that we could significantly improve the quality of our article and its interest for a broad scientific community.

Sincerely,

Corinne C. Hoerger

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 10423, 2014.

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